

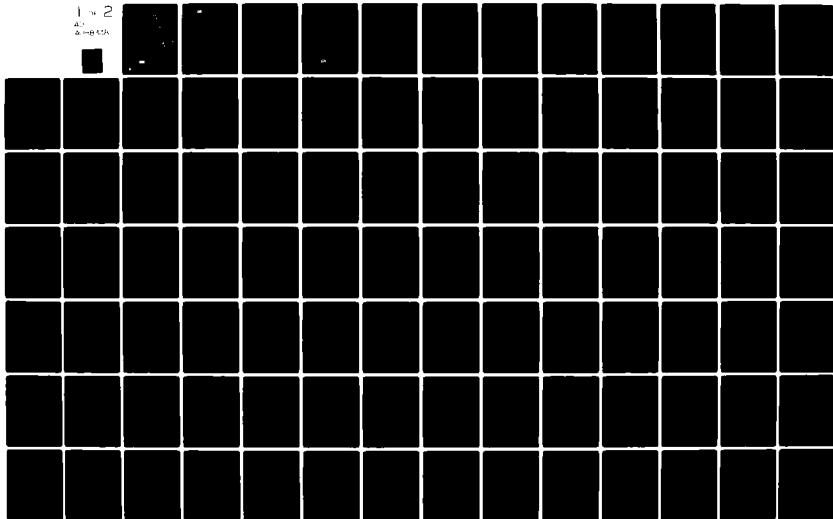
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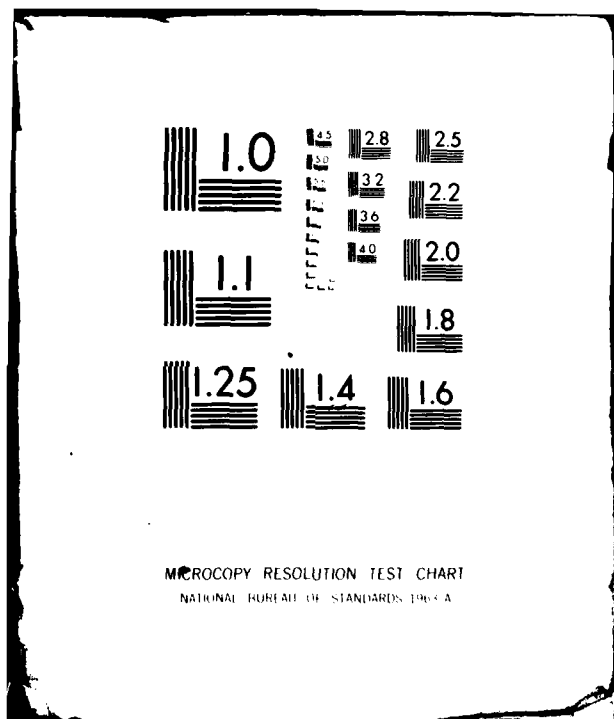
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Main Text and Appendices A-C.

10 Maj. Charles A. Millard USMC
Patricia M. Buckley

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THE EFFECTIVENESS OF INFORMATION PROCESSING IN JUMPS/MMS

Main Text and Appendices A-C

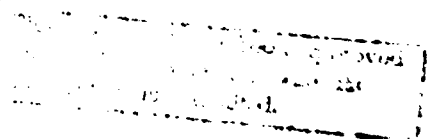
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GLOSSARY

ABAs	- Allotment and Bond Authorizations
ACU	- Administrative Control Unit
AUTODIN	- Automatic Digital Network
CDPA	- Central Design and Processing Activity
CMR	- Central Master Record
DO	- Disbursing Office
DSSN	- Disbursing Service Symbol Number
FSSG	- Force Service Support Group
JUMPS/MMS	- Joint Uniform Military Pay System/Manpower Management System
LES	- Leave and Earnings Statement
MCDOSETS	- Marine Corps Disbursing On-Site Examination Teams
MCFC	- Marine Corps Finance Center
MMPA	- Master Military Pay Account
OCR	- Optical Character Recognition
REAL FAMMIS	- Real Time Finance and Manpower Management Information System
RU	- Reporting Unit
SDPI	- Satellite Data Processing Installation
TODEs	- Transcripts of Data Extraction
UD	- Unit Diary
U&E	- Update and Extract
UTR	- Unit Transaction Register

SUMMARY

BACKGROUND AND PURPOSE

The Joint Uniform Military Pay System/Manpower Management System (JUMPS/MMS) is a semi-automated reporting system for managing the personnel and pay accounts of individual Marines. Although JUMPS and MMS were separately developed and implemented, the similarity in procedures, personnel requirements, and equipment has prompted a steady evolution toward complete integration of the two systems. Since about 1974, they have been known simply as JUMPS/MMS.

A detailed analysis of the reporting efficiency of JUMPS/MMS was first conducted in 1975 (reference 1). Since then, however, the system has undergone numerous procedural and equipment changes; and because JUMPS/MMS is not capable of general self-diagnosis, an updated analysis was requested to assess the impact of those changes. The specific objectives of this new study were:

- To provide an analysis of current JUMPS/MMS performance, and
- To compare current system performance with past performance.

An implicit objective was to provide comparative results for major Marine Corps commands throughout the U.S. at the base, station, group, and regimental levels.

METHODS OF ANALYSIS

The measures of JUMPS/MMS performance were defined as the probability and time associated with the flow (transition) of information between specific points in the JUMPS/MMS processing network. The flow of information in the system is modeled as a finite absorbing Markov chain.

Data for the analysis was provided by Marine Corps disbursing personnel who worked through the Marine Corps Disbursing On-Site Examination Teams. Approximately seven man-years of effort were expended, with data being collected for almost 2.5 million JUMPS/MMS processing actions.

FINDINGS

The principal findings of this analysis are presented first for MMS only, then for JUMPS only, and, finally, for JUMPS/MMS.

MMS Findings

- Approximately 59 percent of all JUMPS/MMS processing actions originated in a Unit Diary (UD) and were processed through MMS.
- An estimated 99.9 percent of all reportable pay-related MMS actions were, in fact, reported in a UD.
- An estimated 96.7 percent of the events reported in a UD for processing through MMS eventually posted to the JUMPS/MMS master record.
- Of the information that failed to post to the master record, 67.6 percent did so because it was manually removed from processing; 26.5 percent was lost at the data processing site.
- An average of 16 days elapsed between the time a reportable pay-related MMS event occurred and it was reported in a UD.
- An average of eight days elapsed between the time information in a UD was reported and it was posted to the JUMPS/MMS master record.

JUMPS Findings

- Approximately 41 percent of all JUMPS/MMS processing actions were pay-unique, reported in a JUMPS form, and processed through JUMPS.
- Approximately 43 percent of JUMPS actions involved Allotment and Bond Authorizations (ABAs); 57 percent involved Transcripts of Data Extraction (TODEs).
- An estimated 99.9 percent of all reportable JUMPS events were, in fact, reported in an appropriate JUMPS form.
- An estimated 92.2 percent of the events reported in a JUMPS form for processing through JUMPS eventually posted to the JUMPS/MMS master record (94.0 percent for ABAs, and 91.0 percent for TODEs).
- About 58.9 percent of the pay-unique JUMPS information that failed to post to the master records did so because the form(s) involved were lost at a disbursing office.
- Events that were reported on TODEs took an average of 22 days between the time the event occurred and it was reported. After a TODE event was reported, an average of

20 days elapsed before it was posted to the JUMPS/MMS master record.

- Events that were reported on ABAs took an average of 0.8 days between the time the event occurred and it was reported. After an ABA was reported, an average of 16 days elapsed before it was posted to the JUMPS/MMS master record.

JUMPS/MMS Findings

- An estimated 97.7 percent of all reportable JUMPS/MMS information was, in fact, reported into the system for processing.
- Approximately 94.8 percent of all pay-unique and pay-related information reported into the system for processing eventually posted to the JUMPS/MMS master record.
- Approximately 59 percent of all JUMPS/MMS transactions, and 60 percent of all posting failures, involved JUMPS processing.
- An average of 15 days elapsed between the time a pay-unique or pay-related event occurred and it was reported in the appropriate JUMPS/MMS form.
- An average of 12 days elapsed between the time JUMPS/MMS information was reported and it was posted to the JUMPS/MMS master record.

Table I summarizes the results discussed above.

TABLE I
SUMMARY OF RESULTS

<u>Type/source of event</u>	<u>Relative volume (percent)</u>	<u>Posting probability (percent)</u>	<u>Average posting time (days)</u>
Pay-related MMS (Unit Diary)	59.0	96.7	24.2
Pay-unique JUMPS (ABA)	41.0 (17.6)	92.2 (94.0)	31.1 (16.6)
(TODE)	(23.4)	(91.0)	(42.1)
Total	100.0	94.8	27.0

SECTION I

INTRODUCTION

BACKGROUND

The Joint Uniform Military Pay System/Manpower Management System (JUMPS/MMS) is a partial integration of two formerly separate and independent management systems. MMS is a fully automated system for storing and processing personnel information, and JUMPS is a semi-automated system for managing military pay. They are integrated to the extent that the Unit Diary (UD) is the basic source document for all MMS transactions and for most JUMPS transactions. Since the implementation of JUMPS in 1973, the operational trend has been toward complete integration of the two systems -- the objective being a single, dual-purpose system.

While Marine Corps personnel audit both JUMPS and MMS periodically, those audits focus only on the procedural aspects of the systems. They are specifically designed to promote adherence to established procedures for completing and processing forms. The audits neither document nor analyze the effectiveness of JUMPS/MMS. A previous analysis of the data flow in JUMPS/MMS is contained in a 1975 study (reference 1). That study documented the data losses and processing delays that occurred between the time a JUMPS/MMS event occurred and it reached a master record in Kansas City. The 1975 study, based on data collected during 1974, examined system performance immediately following its implementation in 1973. During the intervening years, JUMPS/MMS has been refined considerably. Since the system is not capable of self-diagnosis, a follow-on study was proposed (appendix A) to determine the effect of those refinements on system performance.

The study directive (appendix A) for the follow-on JUMPS/MMS analysis provided one year for data collection and specified the organizations from which data would be collected. Specific guidance for the data collection effort, which began during October 1977, was provided by reference 2.

PURPOSE AND SCOPE

The objectives of the analysis (as contained in the study directive and modified by reference 3) are:

- To provide an analysis of current JUMPS/MMS performance; and
- To compare current system performance with past performance.

METHOD OF ANALYSIS

The analytic method used in the follow-on analysis was essentially the same as that used in the original analysis (reference 1). The flow of data in JUMPS/MMS was modeled as a finite absorbing Markov chain, where the probability of entering any given state depends only on the last state occupied. The overall system was examined to identify all such states, or processing points, as well as the paths for information flowing between states. The data collected in conjunction with reference 2 was then used to estimate (conditional) outcomes for each processing step -- that is, the conditional probability and time associated with the processing (transition) of an element of JUMPS/MMS information from one processing step to the next. The conditional probabilities were then used in the Markov model to estimate the times and probabilities of transition between nonsuccessive processing points.

The Markov data flow model has been used in two previous CNA studies of MMS and JUMPS (references 1 and 6). In 1975, the Fiscal Director of the Marine Corps stated (see appendix A) that "... the functional managers of both JUMPS and MMS agree that the methodology used in the model is valid. For that reason, we are prompted to consider the feasibility of extending the anticipated benefits of the on-going [1975] study beyond those originally contemplated. Specifically, what is desired is continued use of the model for subsequent reviews of systems effectiveness at selected commands or geographic areas."

ORGANIZATION OF THE REPORT

Section II describes the features of the JUMPS and MMS information processing systems, and section III describes methods of data collection and aggregation. Section IV contains selected results of the analysis for the aggregated groups -- East Coast, West Coast, and total -- and comparative figures from reference 1.

Appendix A contains the study request and study plan. Detailed diagrams of the JUMPS and MMS information processing networks are shown in appendix B. Appendix C contains the instructions provided to Marine Corps personnel for data collection. Detailed results of the analysis for each of the units and groups of units are presented in appendix D. Appendix E describes the analytic methods and models used in this study.

SECTION II

JUMPS/MMS: AN OVERVIEW OF THE SYSTEM

GENERAL

Each Marine has a master record of pay and personnel information on file in Kansas City, Missouri. JUMPS/MMS is used primarily for maintaining accurate and up-to-date information in that record. This master record then becomes the primary basis for all aspects of personnel and (individual) financial management in the Marine Corps.

The Central Master Record (CMR) of MMS information was designated the official Marine Corps manpower data base on 1 September 1972. The JUMPS was implemented on 1 July 1973; its Master Military Pay Account (MMPA) became the official data base for personal financial information.

The CMR is maintained at the Central Design and Processing Activity (CDPA), and the MMPA at the Marine Corps Finance Center (MCFC). Both the CDPA and the MCFC are located in Kansas City, Missouri.

THE MANPOWER MANAGEMENT SYSTEM (MMS)

MMS uses both manual and automated procedures to maintain and update a Marine's CMR. In simplest terms, the MMS is a communication link between a Marine and his CMR. Information is normally entered into the system by the unit to which a Marine is assigned.¹ This unit, also called a reporting unit (RU), is generally a company, squadron, or battery--the lowest administrative echelon at which records are kept. The mechanism for entering data into the system is the UD, which is prepared by the RU on a special form, using a typewriter with special print format. The UD is either hand-carried or mailed to the Satellite Data Processing Installation (SDPI) servicing the unit, where it enters an optical scanner and is converted to a form usable by automated data processing equipment.² Each UD entry is checked at the SDPI, first for readability, then for format and logic, and, finally, for compatibility with a partial (field) record of personnel information maintained by each SDPI for every Marine within its jurisdiction. If the entry successfully passes these checks, the field

¹Under certain circumstances, higher echelons of command (e.g., Headquarters, Marine Corps) may enter data.

²The forms, type-style, and scanner used in this process are frequently referred to as Optical Character Recognition (OCR) equipment.

record is updated, and the entry is transmitted through an Automatic Digital Network (AUTODIN) to the CDPA in Kansas City. The RU is so notified in the next Unit Transaction Register (UTR), an SDPI-generated report of all UD processing.

If an entry fails any processing step at the SDPI, however, it is rejected to an Administrative Control Unit (ACU). If possible, the ACU will correct the entry and reenter it into processing. If not, the entry will be returned to the RU in the UTR for correction and resubmission on a subsequent UD.

Once an entry reaches the CDPA, it is again subjected to a series of format, logic, and compatibility edits--similar to those at the SDPI. If the entry passes these edits, the information it contains is posted to the CMR, and a notice of posting is returned via AUTODIN and UTR to the RU. If, however, the entry fails, it will be returned for correction.

THE JOINT UNIFORM MILITARY PAY SYSTEM (JUMPS)

JUMPS is to individual financial data what MMS is to personnel data. JUMPS came into being following a Department of Defense requirement that all services develop and use similar (thus the "Joint Uniform" aspect of JUMPS) systems for managing individual financial data. The system had to be centralized, include leave accounting, and be capable of producing periodic reports of the status of the pay account--the Leave and Earnings Statement (LES). Thus, the original intent of JUMPS was to provide a central accounting capability.

Reporting procedures under JUMPS are considerably more elaborate than under MMS.¹ MMS requires only one source document (the UD); JUMPS requires many. In addition, the many documents originate in different places. Some are the responsibility of the RU; others are the responsibility of the Disbursing Office (DO), normally identified by Disbursing Service Symbol Number (DSSN).

All JUMPS information either originates on, or is transcribed to, an OCR form for processing. At the local disbursing office each entry is checked for readability, edited for format, corrected if necessary, and submitted to an optical scanner. The scanner converts the information to a form usable by automatic data processing equipment and records it on magnetic tape. The tape is then either mailed or transmitted (AUTODIN) to the MCFC in Kansas City.

¹The discussion of JUMPS procedures that follows describes the system prior to implementation of all-MMS reporting under the concept of an integrated JUMPS/MMS.

At the MCFC, each entry is again edited and, if properly formatted and logically consistent, is posted to the MMPA. Entries that fail processing at the MCFC are returned to the disbursing officer for correction. Twice a month, during the Update and Extract (U&E) process, each MMPA is examined. During the U&E process, all recently posted changes are reexamined, the LESSs are produced, pay is computed, and pay data is transmitted to disbursing offices for payroll production.¹

THE INTEGRATED SYSTEM: JUMPS/MMS

Figure 1 illustrates the primary features of the parallel processing paths in JUMPS/MMS. Processing begins with an event that necessitates a change to the master record of a Marine and terminates when the record is actually changed. The event must be either reported to, or by, the reporting unit to which the Marine is assigned. The choice of either JUMPS or MMS processing depends on the nature of the information. If the information is uniquely pay-related, with absolutely no impact on any aspect of personnel management, it is processed through JUMPS. Otherwise, it goes through MMS.

As mentioned, the tendency in recent years has been to use the UD as a joint carrier of both JUMPS and MMS information--that is, toward integrating the systems in an all-MMS reporting concept. Complete integration is unlikely under JUMPS/MMS, however, and will undoubtedly await implementation of the successor system, currently known as REAL FAMMIS.²

¹Marines assigned to duty outside the jurisdiction of a disbursing office may be paid direct from the MCFC.

²The Real Time Finance and Manpower Management Information System (REAL FAMMIS) is scheduled for implementation during the mid-1980s.

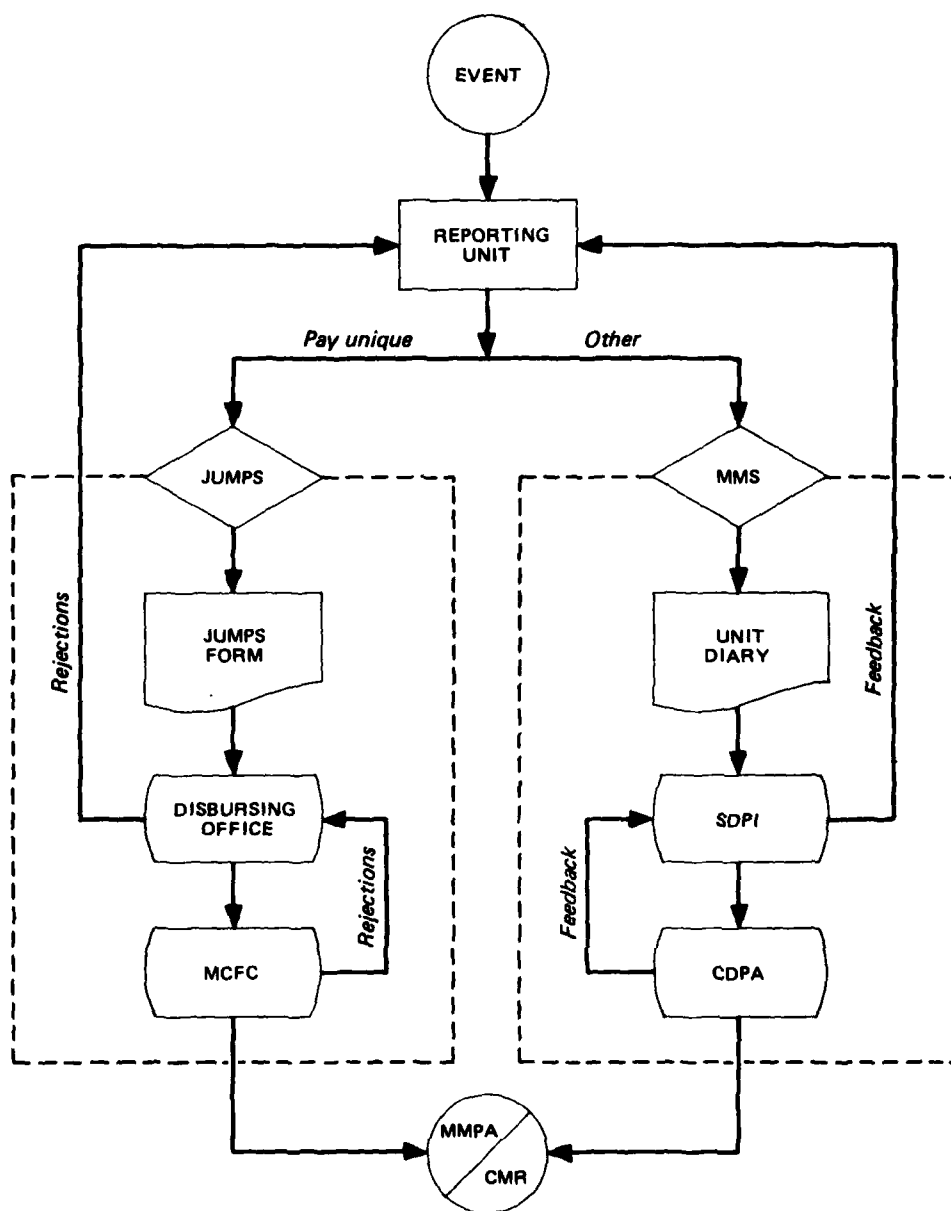


FIG. 1: INFORMATION FLOW IN JUMPS/MMS (SIMPLIFIED)

SECTION III

THE DATA

GENERAL

Data collection for this analysis was begun during October 1977 by two teams of Marine Corps data collectors. Each team consisted of three persons experienced in JUMPS/MMS audit and record procedures. These team members were regularly assigned to the Marine Corps Disbursing On-Site Examination Teams (MCDOSSETs), East and West, and dedicated full-time to collecting data for this analysis. Reference 2 provided complete instructions for collecting data. A separate data collection form was provided for each processing point from which data was required, except that no forms were required for either the CDPA or the MCFC. Appendix C contains data collection forms and complete listings of all units that contributed data.

Tables 1 through 4 show the sample sizes that resulted from the data collection effort, which was completed in February 1979. They indicate the number of JUMPS/MMS transactions for which data was collected. Thus, the analysis is based on a record of the outcome of processing nearly 2.5 million elements (bits) of JUMPS/MMS information. The form numbers in the tables correspond to the data collection forms. In spite of the fact that the size of the overall sample is large, the samples for specific parts of the system are not as large as originally envisioned and desired. In other cases--at Kansas City, for example--sample sizes are larger than anticipated because existing accounting records and procedures facilitated the rapid accumulation of large amounts of data. Most data shortfalls are simply the result of a low incidence of a particular type of transaction. Such shortfalls typically cannot be avoided and are, in fact, evidence that the system is operating as desired, since the infrequent transactions are all digressions from the optimum data processing path.

DATA IRREGULARITIES

During the course of this study, it became necessary to make certain assumptions concerning missing or problematic data. They were:

- The First Force Service Support Group (FSSG) disbursing office (DSSN 6187) processes all TODEs and ABAs on the IBM 3741 Programmable Work Station/Minicomputer. If any errors are detected, the operator simply substitutes correct information and continues processing. Thus, incorrect TODEs and ABAs are not retyped--they are simply corrected as they are entered into the system. Consequently, data forms 17 and 18 for First FSSG and First

TABLE 1
SAMPLE SIZES AT BASIC SAMPLING UNITS

Data Group	Unit	2	3	4	5	11	12	Total
1	MCB, Camp Lejeune	500	478	243	334	498	188	2,241
2	Second FSSG	595	436	466	479	487	169	2,632
3	Second Marines	498	446	450	493	509	58	2,454
4	Sixth Marines	315	274	289	278	320	42	1,518
5	Eighth Marines	500	485	489	493	499	50	2,516
6	Tenth Marines	500	501	493	500	497	26	2,517
7	MCAS, Cherry Point	500	124	63	200	169	13	1,069
8	MAG-14	82	60	17	22	119	14	314
9	MMSG-27	563	79	95	254	71	13	1,075
10	MACG-28	399	57	67	152	62	14	751
11	MAG-32	500	42	55	140	54	19	810
12	MCB, Camp Pendleton	504	500	188	280	504	498	2,474
13	First FSSG	503	504	473	435	486	360	2,761
14	First Marines	503	475	324	392	465	185	2,344
15	Fifth Marines	504	505	326	469	500	297	2,601
16	Seventh Marines	504	504	280	392	429	112	2,221
17	Eleventh Marines	504	504	346	379	363	88	2,184
18	MCAS, El Toro	500	500	73	192	250	139	1,654
19	MAG-11	494	385	177	470	243	208	1,977
20	MAG-13	319	404	103	249	169	72	1,316
21	MMSG-37	585	585	180	540	305	127	2,322
22	MACG-38	499	354	160	212	199	178	1,602
	Total	10,371	8,202	5,357	7,355	7,198	2,870	41,353

TABLE 2
SAMPLE SIZES AT SATELLITE DATA PROCESSING INSTALLATIONS

SDPI Number	Form					Total
	6	7	8	9	10	
02	501	499	499	100	126,912	128,511
03	500	500	504	108	81,232	82,844
Total	1,001	999	1,003	208	208,144	211,355

TABLE 3
SAMPLE SIZES AT DISBURSING OFFICES

DSSN	Form						Total
	13	14	15	16	17	18	
5167	501	500	42,272	1,095	125	100	44,593
6187	500	500	43,213	32,089	0	0	76,302
6796	500	500	29,616	24,077	a	a	54,693
5136	216	120	5,669	4,895	a	a	10,900
5190	500	101	7,919	7,565	144	168	16,397
6092	500	500	22,113	7,016	501	500	31,130
Total	2,717	2,221	150,802	76,737	770	768	234,015

^aNot required.

TABLE 4

SAMPLE SIZES AT THE CENTRAL
DESIGN AND PROCESSING ACTIVITY (CDPA)
AND MARINE CORPS FINANCE CENTER (MCFC)CDPA

Unit diary entries through edit-format processing	582,635
Unit diary entries through poster processing	989,486

MCFC

ABAs through central scanner	111,555
ABAs through edit-format processing	102,865
ABAs through poster processing	204,189

TODEs through central scanner	8,327
TODEs through edit-format-poster processing	8,179

<u>Total</u>	2,007,236
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Division units are incomplete, with a corresponding loss of processing statistics. In this study, where these statistics are required for a complete analysis, the values for First FSSG are assumed to be equal to those for Second FSSG.

- At the MCFC in Kansas City, no record is kept of the time required for scanner-rejected ABAs and TODEs to be corrected and reentered into processing. Where these times are required elsewhere in this analysis, it will be assumed that correction occurs without delay (i.e., with $t=0$).

AGGREGATION STRATEGIES FOR COMPOSITE UNITS

To provide a level of statistical detail that allows a comparison of JUMPS/MMS performance at several organizational levels, the data has been aggregated as shown in table 5. Aggregation level A contains the basic sampling units. The remaining levels are combinations of these basic units. Aggregation level D is all data combined into a single unit. We have called this unit "Total Marine Corps," although it includes only those units in data groups 1 through 22. The weighting factors for constructing the aggregate models are contained in tables 6 and 7.

TABLE 5
DATA GROUPS AND AGGREGATION LEVELS

Aggregation level A

<u>Group</u>	<u>Unit</u>	<u>DSSN</u>	<u>SDPI</u>
1	MCB, Camp Lejeune	5190	02
2	Second FSSG	6092	02
3	Second Marines	6092	02
4	Sixth Marines	6092	02
5	Eighth Marines	6092	02
6	Tenth Marines	6092	02
7	MCAS, Cherry Point	5136	02
8	MAG-14	5136	02
9	MWSG-27	5136	02
10	MACG-28	5136	02
11	MAG-32	5136	02
12	MCB, Camp Pendleton	5167	03
13	First FSSG	6187	03
14	First Marines	6187	03
15	Fifth Marines	6187	03
16	Seventh Marines	6187	03
17	Eleventh Marines	6187	03
18	MCAS, El Toro	6796	03
19	MAG-11	6796	03
20	MAG-13	6796	03
21	MWSG-37	6796	03
22	MACG-38	6796	03

Aggregation level B

23	East Coast, Ground (Groups 1-6)	5190/6092	02
24	East Coast, Air (Groups 7-11)	5136	02
25	West Coast, Ground (Groups 12-17)	5167/6187	03
26	West Coast, Air (Groups 18-22)	6796	03

Aggregation level C

27	East Coast (Groups 1-11)	5136/5190/6092	02
28	West Coast (Groups 12-22)	5167/6187/6796	03

Aggregation level D

29	Total Marine Corps ^a	All above	02/03
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^aOnly those units represented by groups 1 through 22 are included in "Total Marine Corps."

TABLE 6

WEIGHTING FACTORS FOR AGGREGATION
OF DATA FROM LEVEL A TO LEVEL B

<u>Aggregation level A</u>			<u>Aggregation level B</u>	
<u>Group</u>	<u>Enlisted^a manning</u>	<u>Weighting factor</u>	<u>Group</u>	<u>Enlisted manning</u>
1	1,905	0.093	23	20,394
2	6,231	0.306		
3	3,136	0.154		
4	3,136	0.154		
5	3,136	0.154		
6	2,850	0.140		
7	789	0.125	24	6,309
8	2,166	0.343		
9	978	0.155		
10	803	0.127		
11	1,573	0.249		
12	1,732	0.109	25	15,874
13	3,943	0.248		
14	2,495	0.157		
15	3,278	0.207		
16	2,495	0.157		
17	1,931	0.122		
18	611	0.118	26	5,167
19	1,248	0.242		
20	1,390	0.269		
21	1,288	0.249		
22	630	0.122		

^aSource: HQMC Code MPC.

TABLE 7

WEIGHTING FACTORS FOR AGGREGATION
OF DATA FROM LEVEL B TO LEVEL D

Aggregation level B			Aggregation level C			Aggregation level D	
Group	Enlisted manning	Weighting factor	Group	Enlisted manning	Weighting factor	Group	Enlisted manning
23	20,394	0.764	27	26,703	0.559	29	47,744
24	6,309	0.236					
25	15,874	0.754	28	21,041	0.441		

SECTION IV

RESULTS

GENERAL

Our analysis indicates that JUMPS/MMS is, on average, more reliable and more responsive now than it was during the 1975 study.¹ Tables 8 through 14 show selected results for the aggregate groups--East Coast, West Coast, and total--and comparative results from 1975. Appendix D contains corresponding results for the remaining groups and detailed results for all groups. The analytic methodology is described in appendix E.

The conditional outcomes shown in the tables for certain processing steps apply only to elements of information that actually reach and are processed at those points. Thus, for example, the conditional outcome that 6.2 percent of the entries rejected to paragraph 5 of the UTR are not resubmitted (table 8) applies only to those entries that actually reach UTR paragraph 5 for resubmission. Unconditional outcomes, on the other hand, refer to the proportion of all data elements entering the system that ultimately experience the specific outcome. Thus, to continue our example, table 9 shows that of all reportable, pay-related MMS events that occur, only 0.1 percent will be "lost" in paragraph 5 of the UTR. The unconditional outcomes shown are all terminal (i.e., final) in the sense that no subsequent processing is possible. Some outcomes are also labeled either restricted or unrestricted, depending on whether a constraint was imposed on allowable processing time. The 1975 study assumed that a data element would either be processed within 60 days of receipt at a processing point, or that it would not be processed at all. Allowable processing times were thus restricted to 60 days or less. We have included a similarly restricted case for comparison, but have also included results for which allowable processing times are unconstrained.

MMS RESULTS

Since the 1975 study, the proportion of reportable pay-related MMS events that successfully reaches and is posted to the CMR has increased by 9.8 percentage points, or by 12.3 percent.² During

¹Reference 1.

²A percentage point change is simply the arithmetic difference between two proportions (e.g., 1975 and current), whereas a percent change is the ratio of a percentage point change to a base value (e.g., the 1975 proportion). All comparison between the current and 1975 studies are based on the RESTRICTED case.

TABLE 8
MMS PROBABILITIES (PERCENTAGES) FOR SELECTED
CONDITIONAL OUTCOMES

Outcome	1975 study	Current study		
		East Coast	West Coast	Total
Event not reported				
Unrestricted (no limit on reporting time)	a	0.2	0.0	0.1
Restricted (60 day limit on reporting time)	7.4	7.8	7.3	7.5
Results of the Unit Diary edit at the SDPIs:				
Accepted - passed to KC in UTR para. 1/7	90.6	92.2	93.7	92.8
Rejected to RU in UTR para. 2/6	0.9	1.0	0.5	0.8
Rejected to ACU	4.8	2.9	2.6	2.7
Deleted (UTR para. 4)	0.2	0.2	0.2	0.2
Advisory message (UTR para. 5)	0.7	0.3	0.5	0.4
Suspense file	2.6	2.5	2.0	2.3
ACU/SDPI loss	0.2	0.8	0.5	0.6
Resubmission of entries rejected to reporting units:				
UTR para. 2/6 entry not resubmitted	9.1	3.2	1.6	2.7
UTR para. 5 entry not resubmitted	29.9	14.1 ^b	1.4	6.2
CDPA/MCEC edit-- poster failures	19.7	--	--	--
Edit failures	a	0.1	0.1	0.1
Poster failures	a	3.4	3.4	3.4

^aNot available in the 1975 study (reference 1).

^bThe high probabilities for MAG-14, MCB Camp LeJeune, and 6th Marines caused the East Coast probability to be high.

TABLE 9

MMS PROBABILITIES (PERCENTAGES) FOR THE DISTRIBUTION OF STATEMENTS
AMONG UNCONDITIONAL TERMINAL OUTCOMES

Outcome	1975 study ^a	Current study ^b		
		East Coast	West Coast	Total
Event not reported	7.4	0.2	0.0	0.1
UTR para. 2/6 entry - not corrected	0.7	0.0	0.0	0.0
UTR para. 5 entry - not corrected	3.9	0.1	0.0	0.1
Rejected to RU - no action required	6.1	0.5	1.1	0.7
UTR para. 4 entry	1.3	0.3	0.4	0.3
Scanner reject - not corrected	0.1	0.0	0.0	0.0
UTR para. 3 entry	0.0	0.5	0.2	0.3
Edit reject - not corrected	0.1	0.0	0.1	0.1
Lost in edit	0.3	0.8	0.7	0.8
Rejected to ACU - no action required	0.1	0.8	1.2	1.0
Lost in suspense file	0.6	0.0	0.0	0.0
Posted to CMR				
Unrestricted reporting/processing times	^c	96.8	96.3	96.6
Restricted reporting/processing times (60 days)	79.4	89.2	89.0	89.2

^aThis distribution of outcomes is based on restricted reporting and processing times (events not reported or processed within 60 days are considered lost).

^bThese distributions of outcomes are based on unrestricted reporting and processing times (no time limit on reporting or processing the event), except where noted.

^cNot available in the 1975 study (reference 1).

TABLE 10
AVERAGE MMS TIMES (DAYS) FOR SELECTED TRANSITIONS

<u>Transition</u>	<u>1975 study</u>	<u>Current study</u>		
		<u>East Coast</u>	<u>West Coast</u>	<u>Total</u>
From event to Unit Diary				
Unrestricted (no limit on reporting time)	^a	13.75	19.09	16.11
Restricted (60 day limit on reporting time)	10.2	6.94	11.00	8.73
From UD to ACU scanning	3.9	2.88	2.45	2.69
From ACU scan to UTR	0.5	0.43	0.26	0.35
From UTR para. 2/6 to RU resubmission	12.8	5.57	5.70	5.61
From UTR para. 5 to RU resubmission	17.7	11.71	9.24	10.19
From suspense file to suspense file	16.7	8.89	12.39	10.26
From rejection to ACU to ACU resubmission	2.0	1.73	0.95	1.40
From rejection to ACU to AUTODIN entry	^a	5.39	5.46	5.42
From ACU scan to CDPA edit	2.3	3.47	3.23	3.36
From AUTODIN entry to CDPA edit	^a	2.64	2.64	2.64
From CDPA receipt to CMR posting	1.8	1.71	1.87	1.78
Event occurrence to CMR posting ^b				
Unrestricted	^a	22.29	26.54	24.17
Restricted	18.9	15.48	18.45	16.79

^aNot available in the 1975 study (reference 1).

^bTotal delay time (from event occurrence to CMR posting) is not simply the sum of intermediate delay times shown because (1) not all events are subject to all the delays and (2) some events are subject to some of the delays more than once. Total delay time is obtained by multiplying the intermediate delay times by the expected number of occurrences of that delay, and then summing the resulting products (see appendix E).

TABLE 11

JUMPS PROBABILITIES (PERCENTAGES) FOR SELECTED
CONDITIONAL OUTCOMES

Outcome	1975 study	Current study		
		East Coast	West Coast	Total
Primary separation				
ABA event	30.3	50.0	34.2	43.0
TODE event	69.7	50.0	65.8	57.0
ABA event not reported				
Unrestricted	^a	0.0	0.3	0.1
Restricted	8.0	0.1	0.7	0.3
ABA lost at DO	^a	0.0	0.0	0.0
ABA decentrally processed	50.1	75.3	96.4	75.7
ABA read by scanner	89.0	84.4	96.6	88.5
ABA scanner rejects lost	0.0	37.3	33.0	37.1
TODE event not reported				
Unrestricted	^a	0.0	0.0	0.0
Restricted	4.0	12.3	9.4	10.8
TODE source document lost at DO	2.0	7.9 ^b	0.0	3.9
TODE lost at DO	1.9	8.4 ^b	0.0	4.1
TODE decentrally processed	68.1	73.8	75.3	74.5
TODE read by scanner	88.2	89.7	96.3	93.0
TODE scanner rejects lost	15.0	0.2	32.8	15.8
MCFC scanner reject of ABA	17.0	7.8	7.8	7.8
MCFC posting failure for ABA	8.2	4.1	4.1	4.1
MCFC scanner reject of TODE	16.0	1.8	1.8	1.8
MCFC posting failure for TODE	8.2	3.4	3.4	3.4

^aNot available in the 1975 study (reference 1).

^bThe high probability of DDSN 6092 caused the East Coast probability to be high.

TABLE 12

JUMPS PROBABILITIES (PERCENTAGES) FOR THE DISTRIBUTION OF STATEMENTS
AMONG SELECTED UNCONDITIONAL TERMINAL OUTCOMES

Outcome	1975 study ^a	Current study ^b		
		East Coast	West Coast	Total
ABA event not reported	8.0	0.0	0.2	0.1
ABA lost at DO	9.5	7.4	2.6	5.7
ABA rejected at MCFC - not resubmitted	1.6	0.3	0.2	0.2
TODE event not reported	4.0	0.0	0.0	0.0
TODE source document lost at RU	4.0	0.6	0.0	0.3
TODE source document lost at DO	1.9	7.9 ^d	0.0	3.9
TODE lost at DO	1.7	7.7 ^e	0.0	4.0
TODE rejected at ACU - lost	1.0	0.0	1.0	0.8
TODE rejected at MCFC - lost	0.2	0.0	0.1	0.0
ABA posted to MMPA				
Unrestricted	^c	92.3	97.0	94.0
Restricted	80.9	92.2	96.3	93.6
TODE posted to MMPA				
Unrestricted	^c	83.8	99.0	91.0
Restricted	87.2	71.5	89.5	80.9

^a This distribution of outcomes is based on restricted reporting and processing times (events not reported or processed within 60 days are considered lost).

^b This distribution of outcomes is based on unrestricted reporting and processing times (no time limit on reporting or processing the event), except where noted.

^c Not available in the 1975 study (reference 1).

^d The high probability for DDSN 6092 caused the East Coast probability to be high.

^e The high probability for DDSN 5190 caused the East Coast probability to be high.

TABLE 13
AVERAGE JUMPS TIMES (DAYS) FOR SELECTED ABA TRANSITIONS

Transition	1975 study	Current study		
		East Coast	West Coast	Total
From ABA event to ABA preparation				
Unrestricted	^a	0.78	0.89	0.82
Restricted	0.0	0.70	0.78	0.73
From ABA preparation to receipt at DO	4.0	1.43	4.01	2.33
From ABA receipt at DO to DTL	5.9	6.91	5.01	6.24
From DTL preparation to decentral scan	1.6	0.01	0.15	0.06
From decentral scan to mailing	0.0	2.21	1.96	2.12
From DTL preparation to mailing	0.7	3.06	1.68	2.59
From ABA receipt at MCFC to central scan	0.5	0.64	0.64	0.64
From central scan to posting to MMPA	4.3	0.00	0.00	0.00
From receipt at MCFC to posting	4.4	1.24	1.27	1.26
From ABA event to posting to MMPA ^b				
Unrestricted	^a	16.63	15.84	16.56
Restricted	23.3	16.45	15.73	16.40

^aNot available in the 1975 study (reference 1).

^bTotal delay time (from ABA event to posting to MMPA) is not simply the sum of the intermediate delay times shown because (1) not all events are subject to all the delays and (2) some events are subject to some of the delays more than once. Total delay time is obtained by multiplying the intermediate delay times by the expected number of occurrences of that delay, and then summing the products (see appendix B).

TABLE 14
AVERAGE JUMPS TIMES (DAYS) FOR SELECTED TODÉ TRANSITIONS

Transition	1975 study	Current study		
		East Coast	West Coast	Total
From TODÉ event to TODÉ document Unrestricted	^a 12.6	25.51 12.98	19.00 7.84	22.20 10.36
Restricted				
From TODÉ document preparation to receipt at DO	11.3	8.82	10.98	9.92
From document receipt at DO to TODÉ	9.0	4.20	1.84	2.99
From TODÉ to DTL preparation	4.1	3.87	3.33	3.59
From DTL preparation to decentral scan	0.0	0.00	0.08	0.04
From DTL preparation to mailing	2.2	0.77	0.30	0.52
From TODÉ receipt at MCFC to central scan	0.8	1.06	1.06	1.06
From central scan to posting to MMPA	1.0	0.01	0.01	0.01
From receipt at MCFC to posting to MMPA	2.3	2.12	2.10	2.11
From TODÉ event to posting to MMPA ^b Unrestricted	^a 50.5	46.47 33.94	37.87 26.71	42.10 30.26
Restricted				

^aNot available in the 1975 study (reference 1).

^bTotal delay time (from TODÉ event to posting to MMPA) is not simply the sum of the intermediate delay times shown because (1) not all events are subject to all delays and (2) some events are subject to some of the delays more than once. Total delay time is obtained by multiplying the intermediate delay times by the expected number of occurrences of that delay, and then summing the products (see appendix E).

the same period, the average delay between reporting of an event on a unit diary and posting to the CMR has decreased 7.4 percent. Although results vary from unit to unit, a typical event has an 89.2 percent chance of posting to the CMR in an average time of 16.8 days. Of the 3.4 percent that fail to post, over two-thirds do so because they are removed from processing by either the unit or the SDPI, presumably because they are no longer needed (see tables 15 and 16). Appendix D contains detailed results for each of the data groups examined in this analysis. Note that over half of the total processing delay occurs in the initial step--reporting the event to the unit diary. This delay may be attributed (in undetermined proportions) to a Marine whose record is involved, to the unit to which he belongs, and to our data collection procedures. Although it was beyond the scope of this analysis to determine the reasons for specific outcomes, we assume that the individual and unit delays are simply due to lack of attention to procedural requirements and not to any system design characteristic. These delays are probably independent of either JUMPS/MMS hardware or software and would exist in any system. Concerning the contribution of the data collection procedures to initial delay time: data collectors were instructed to record dates that most accurately reflected the time available for processing. Thus, the time distribution would begin when either the person involved or the unit became aware of a reportable event. Unfortunately, however, available records did not always allow an accurate determination of this date. In such cases, effective dates were used, resulting in a slightly inflated estimate of the delay time. The initial processing (i.e., reporting) times for several specific types of transactions are shown in table 17.

JUMPS RESULTS

If a pay-unique event occurs, it is almost certain to be reported by the reporting unit on the appropriate JUMPS form. If the form is an ABA, the probability that it posts to the MMPA is 93.6 percent--a 16-percent improvement over the 1975 study. Although the typical ABA takes nearly 17 days to post, this is nearly a 30-percent improvement over 1975. If the event is one that requires a TODE, the posting probability is 80.9 percent (seven percent worse than 1975), and the delay is 30 days (a 40-percent improvement). Proportionately, the total delay that occurs in the initial step is still significant for TODE events, but is less than in 1975. The initial delay is only about five percent for ABAs, which are principally "over the counter" transactions that preclude this type of delay. Over half of the JUMPS events that fail to post to the master record do so because the applicable forms are lost at the disbursing office (table 16).

TABLE 15

TERMINAL DISTRIBUTION OF
MMS POSTING FAILURES

<u>Terminal state</u>	<u>Proportion (percent) of:</u>			
	<u>MMS</u>		<u>All JUMPS/MMS</u>	
	<u>Failures</u>	<u>Events</u>	<u>Failures</u>	<u>Events</u>
Lost at Reporting Unit	5.9	0.2	2.0	0.1
Lost at ACU/SDPI	26.5	0.8	10.0	0.5
Removed from processing	67.6	2.4	28.0	1.4
Total	100.0	3.4	40.0	2.0

TABLE 16

TERMINAL DISTRIBUTION OF
JUMPS POSTING FAILURES

<u>Terminal state</u>	<u>Proportion (percent) of:</u>			
	<u>JUMPS</u>		<u>All JUMPS/MMS</u>	
	<u>Failures</u>	<u>Events</u>	<u>Failures</u>	<u>Events</u>
Lost at Reporting Unit	2.7	0.2	2.0	0.1
Lost at Disbursing Office	58.9	4.1	34.0	1.7
Lost in scanning	21.9	1.7	14.0	0.7
Removed from processing	16.5	1.3	10.0	0.5
Total	100.0	7.3	60.0	3.0

TABLE 17

REPORTING TIMES (DAYS) FOR SELECTED MMS EVENTS

<u>TTC^a</u>	<u>Event</u>	<u>Sample size</u>	<u>Mean time</u>	<u>Standard deviation</u>
004	Reenlistment	15	15.1	22.0
023	Proceed	193	31.1	35.4
024	Delay	779	28.0	47.3
052	Promotion	1,596	15.8	30.2
056	Reduction	213	21.0	49.0
063	PEBD	16	13.4	30.0
106-7	TAD	195	17.1	42.6
110	To leave	38	5.7	10.0
115	On leave	3,115	7.4	23.2
136	Sea duty	165	17.3	32.3
137	Start COMRATS	840	11.5	20.1
138	Stop COMRATS	368	6.2	15.3
175	From Foreign duty	299	44.7	38.6
196	Check COMRATS	368	6.2	15.3
279	Unauthorized absence	420	13.6	24.4
280	From Unauthorized absence	214	11.8	21.2
283	Forfeiture	566	14.9	30.0
308	Time lost	220	25.6	62.7
311	RCMA	33	96.6	90.3
434	Tax exclusion	95	0.3	2.0
464	Start fly duty	88	7.8	20.8
506	Start BAQ	2,288	30.9	61.2
507-11	BAQ (other)	385	28.1	83.0
563	Credit LSL	61	13.6	32.6
569-570	Quarters	1,055	3.6	24.6

^aType transaction code. See references 4 and 5.

VARIABILITY OF RESULTS

As previously indicated, the results for specific JUMPS/MMS processing points varied considerably over the 22 units examined. This fact is illustrated in table 18 for a small sample of selected outcomes. Note, for example, that the average time required for a reportable, pay-related MMS event to post to the CMR varied from 12 to 36 days, with a mean of 24 days. In considering these extremes--or any of the results, for that matter--the reader is cautioned against stating unequivocally that one unit is better (or worse) than another. The results in this report are statistical estimates, and as such are subject to confidence limits. The detailed results (appendix D) for each of the 22 units (i.e., data groups 1 through 22) examined include confidence limits. The detailed results for aggregate groups 23 through 29, however, are the output of a Markov model, and confidence limits have been omitted. While it is theoretically possible to generate approximate confidence intervals for Markovian statistics (see reference 1), the techniques involved are so complex and time-consuming, that their use did not seem justified in this study.

TABLE 18
EXTREME RESULTS FOR SELECTED OUTCOMES^a

Probability (percentage) of	Total result	Best		Worst	
		Group	Result	Group	Result
Reporting MMS event on UD	99.9	2-18,20-22	100.0	1	97.4
Reporting ABA event on ABA	99.9	1-17,19-20	100.0	18	98.6
Reporting TODE event on FORM	100.0	2-5,7-22	100.0	6	99.1
Posting MMS event to CMR	96.6	8	98.1	5	90.3
Posting ABA event to MMPA	93.9	7-11,19-20	100.0	2-5	89.4
Posting TODE event to MMPA	91.7	7-11,18-22	100.0	1	65.5
Time (days) required for:					
Reporting MMS event on UD	16.1	8	3.6	4	28.0
Reporting ABA event on ABA	0.8	9	0.1	1	1.7
Reporting TODE event on FORM	22.2	20	7.3	3	34.8
Posting MMS event to CMR	24.2	7	11.9	4	35.8
Posting ABA event to MMPA	16.6	9	9.8	12	28.5
Posting TODE event to MMPA	49.2	19	22.7	4	67.6

^aAll results shown are for the UNRESTRICTED case.

REFERENCES

1. Center for Naval Analyses, Study 1065, "Data Losses and Time Delays in the Joint Uniform Military Pay System/Manpower Management System (JUMPS/MMS)," by C. Bernard Barfoot, Unclassified, Dec 1975
2. Center for Naval Analyses Memorandum (CNA)77-3113, "Data Collection for an Effectiveness Analysis of JUMPS/MMS," Unclassified, 16 Sep 1977
3. Commandant of the Marine Corps, letter FDD-ntj 5200 of 26 Jan 1979
4. Marine Corps Order P1080.35, "Personnel Reporting Instructions Manual," Unclassified
5. Marine Corps Order P7220.31, "Joint Uniform Military Pay System Field Procedures Manual," Unclassified
6. Center for Naval Analyses, Study 1009, "Delays and Losses of Data in the Manpower Management System," by C. B. Barfoot and D. E. Willhite, Unclassified, Sep 1972

APPENDIX A
STUDY REQUEST AND STUDY PLAN

DEPARTMENT OF THE NAVY

Memorandum

RDS-41-mrc
DATE: 15 MAY 1975

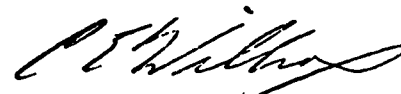
FROM : Deputy Chief of Staff for Research, Development and Studies

TO : Director, Marine Corps Operations Analysis Group

SUBJ : Systems Effectiveness of JUMPS/MMS

ENCL : (1) FDMC memo FDD-ebf over 7330 of 5 May 1975

1. The Fiscal Director has requested continued MCOAG services in the review of systems effectiveness of the JUMPS/MMS. Enclosure (1) provides background as well as specific requirements.
2. It is requested that the analytic support requested in enclosure (1) be provided.
3. Direct liaison with the Fiscal Director is authorized for any additional information required for this project.


C. E. WILLCOX
By direction

Copy to:
President, CNA
FDMC (W/O Encl)

FDD-ebf
7330

5 MAY 1975

MEMORANDUM

From: Fiscal Director of the Marine Corps
To: Deputy Chief of Staff for Research, Development & Studies
Via: Deputy Chief of Staff for Manpower

Subj: Marine Corps Operations Analysis Group (MCOAG) study
of JUMPS/MMS

Ref: (a) FDMC memo FDD-egb 7330 of 6 Dec 1973
(b) Dir, MCOAG memo (CNA) 3008-74, 10 dtd 17 Jan 1975
for the Head, Disbursing Branch (Code FDD)

1. Pursuant to the request contained in reference (a), the MCOAG was tasked to conduct a study of JUMPS effectiveness. Phase I of a possible four phase study has been concluded and a preliminary report has been received. We are confident that the final study report will be extremely useful to JUMPS/MMS functional managers.

2. Reference (b) provided a description of the network and mathematical model used by MCOAG to design the data collection plan and measure delays and losses of data at collection and processing points. Although some concern has been expressed as to the adequacy of the size of the data sample used to date, the functional managers of both JUMPS and MMS agree that the methodology used in the model is valid. For that reason, we are prompted to consider the feasibility of extending the anticipated benefits of the on-going study beyond those originally contemplated. Specifically, what is desired is continued use of the model for subsequent reviews of systems effectiveness at selected commands or geographic areas. We envision the possibility of using the Marine Corps Disbursing On-Site Examination Teams to gather data, as they did for the basic study, and continued involvement of MCOAG representatives to develop statistical analysis.

3. I would appreciate your concurrence in continued utilization of MCOAG services for the above purpose.



W. F. SIMLIK



DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, D.C. 20380

IN REPLY REFER TO
FDD-njs

5200
24 JUN 1977

From: Commandant of the Marine Corps
To: Director, Marine Corps Operations Analysis Group,
1401 Wilson Boulevard, Arlington, Virginia 22209

Subj: JUMPS/MMS Study Directive

Encl: (1) Proposed Study Directive

1. Enclosure (1) has been reviewed and is approved. It would be of value to JUMPS/MMS management if we can continue to identify and measure the extent of failures in order to effect modifications to current procedures to preclude their recurrence.

2. It is not desired to include the overseas (Mid- and West-Pac) units in the scope of the study at this time. If at a later date it would be cost-effective and time permits, the expanding of the study to include these units may be reconsidered.

H.A. Hatch

H. A. HATCH
By direction

Copy to:
CG, MCAS, Cherry Point w/encl
CG, MCB, CLNC w/encl
CG, 2d FSSG w/encl
CG, 2d MARDIV w/encl
CG, 2d MAW w/encl
CG, MCB, CAMPEN w/encl
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(CNA)77-3070

27 May 1977

MEMORANDUM FOR THE FISCAL DIRECTOR OF THE MARINE CORPS

Subj: JUMPS/MMS Study Directive

Ref: (a) CNA memo (CNA)77-3044 of 23 March 1977

Encl: (1) Proposed Study Directive

1. Based on your review of the preliminary sampling plan for the study of JUMPS/MMS system effectiveness, forwarded by the reference, and upon subsequent discussions between MCOAG and members of your staff, a proposed study directive has been prepared and is enclosed for your consideration.

2. Overseas (Mid- and West-Pac) units have not been included in the scope of work proposed by the enclosure, in accordance with the guidance provided. We believe, however, that consideration should be given to their inclusion in order to more accurately determine what effect, if any, location and deployment schedules have on system data losses and delays. Such a step could be accommodated by diverting a data collection team from its programmed CONUS effort, by tasking overseas personnel with conducting a concurrent sampling effort, or by requiring one of the existing teams to collect overseas data after it had satisfied its CONUS responsibilities. With respect to the latter possibility, it should be noted that the time required for data collection may be less than that postulated in the reference, due to exclusion of the San Diego and Parris Island geographical composites. It might, therefore, be possible to include selected overseas units in the approved one-year sampling time.



ROBERT J. CORN
Director
Marine Corps Operations
Analysis Group

Copy to:

DC/S RDS (Code RDS-40)

DC/S MPR (Code MPI-50)

PROPOSED STUDY DIRECTIVE

Subj: System Effectiveness of JUMPS/MMS

Ref: (a) CNS 1065, "Data Losses and Time Delays in the Joint Uniform Military Pay System/Manpower Management System (JUMPS/MMS), Unclassified, December 1975.

(b) DC/S RD&S memo RDS-41-mrc of 15 May 1975

Encl: (1) Command Listing

1. **TITLE:** System Effectiveness of JUMPS/MMS

2. **BACKGROUND:** Reference (a) provided the results of a study of JUMPS/MMS after JUMPS had been in operation for one year. Reference (b) endorsed a proposal and request by the Fiscal Director of the Marine Corps for continued MCOAG analytic support in the review of JUMPS/MMS system effectiveness.

3. **OBJECTIVES:** The Marine Corps Operations Analysis Group is hereby tasked to provide analytic assistance as follows:

a. Conduct a comparative study of system effectiveness of JUMPS/MMS between 1977 data and the data collected during 1974 and reported in reference (a);

b. Provide an analysis of current JUMPS/MMS system effectiveness; and

c. Provide recommendations for the development of a management information system for JUMPS/MMS which will provide statistical information like the data presented in reference (a) and that to be provided in this study.

4. **SPECIFIC GUIDANCE:** Specific guidance is delineated in the following scope of the study:

a. Data will be collected from the reporting units of the commands listed in the enclosure and from the disbursing offices and data processing installations servicing those units.

b. Sample sizes will be based on parameter estimates (viz., transition times and probabilities) from the previous CNA study of JUMPS/MMS and should be sufficient to provide the following:

(1) Results which are statistically significant at the 95% confidence level; and

(2) A basis for comparing the JUMPS/MMS performance of the commands listed in the enclosure.

c. Two-sided confidence intervals should be used for all time estimates and for transition probabilities between 0.3 and 0.7. One-sided intervals will be used otherwise.

d. It is anticipated that the collection of data will require approximately one year and will involve the full time effort of two teams of data collectors. These teams are composed of three Marines each and are attached to the Marine Corps Disbursing On-Site Examination Teams, East and West.

e. Non-pay-related information will be excluded from the data samples to ensure comparability of results with the previous study.

f. Processing of data collected in conjunction with this study will be the responsibility of MCOAG, except that key-punching will be performed by Headquarters, Marine Corps personnel.

4. Direct liaison is authorized between the MCOAG analysts and such Marine Corps activities as may be necessary to facilitate this effort. Points of contact will be provided by the Fiscal Division, Headquarters, Marine Corps, wherever possible.

Enclosure (1)

COMMAND LISTING

East Coast

MCB, Camp Lejeune
2nd FSSG
2nd Marines
6th Marines
8th Marines
10th Marines
MCAS, Cherry Point
MAG-14
MWSG-27
MACG-28
MAG-32

West Coast

MCB, Camp Pendleton
1st FSSG
1st Marines
5th Marines
7th Marines
11th Marines
MCAS, El Toro
MAG-11
MAG-13
MWSG-37
MACG-38

Enclosure



DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, D.C. 20380

IN REPLY REFER TO
FDD-ntj
5200

26 JAN 1979

From: Commandant of the Marine Corps
To: Director, Marine Corps Operations Analysis Group,
1401 Wilson Boulevard, Arlington, Virginia 22209

Subj: MCOAG Analysis of Information Losses and Delays
in JUMPS/MMS

Ref: (a) Center for Naval Analysis Working Paper, (CNA)
78-3115, "Interim Report of a Study of Information
Losses and Delays in JUMPS/MMS" dtd 16Oct78

Encl: (1) List of Type Transaction Codes

1. Reference (a) has been reviewed and this Headquarters concurs with the recommendations concerning completion of this phase of the ongoing study.

2. In addition it is requested that the Type Transaction Codes in enclosure (1) be displayed in order to measure the extent of delays and effect modifications to current procedures to preclude their recurrence.

J. R. P. [unclear]
by direction

<u>TTC</u>	<u>DESCRIPTION</u>
004	Reenlistment Entry
020	Joining Entry
052	Promotion (Enlisted)
056	Reduction
063	PEBD
097	Service School Completion
115	On Leave Entry
117	Extension of Enlistment Effective
198	Rotation Tour Date
279	Unauthorized Absence
280	From Unauthorized Absence
361	Transfer Entry Within MCC Only
364	Transfer Between MCC's
378	Drop from Active Duty
460	Duty Status Code
505	ADV PAY
506	Start BAQ
507	Stop BAQ
518	Start CCA
530	Start FSA
531	Stop FSA
563	Credit LSL
569	Start QTRS
570	Stop QTRS
589	CK TR

(Enclosure 1)

APENDIX B
INFORMATION FLOW NETWORKS
FOR JUMPS AND MMS

APPENDIX B
INFORMATION FLOW NETWORKS
FOR JUMPS AND MMS

This appendix contains the detailed diagrams of the JUMPS and MMS processing networks. It is the result of a detailed examination of the separate processing systems, in which every processing point and every information flow path between points was identified. The points are identified by a letter ("M" for MMS and "J" for JUMPS) and a number. Normal paths between points are shown as solid lines. Paths shown as dotted lines (....) connect points that are immediately consecutive--i.e., for which there is no associated delay time. Dashed lines (- - - -) represent paths for which no time data could be found. In such cases, it was assumed that no delay time was involved.

Table B-1 identifies each processing point (node) along the MMS information processing network. Figure B-1 shows the primary elements of the overall MMS flow model, while figures B-2 through B-12 illustrate details of its various segments.

Table B-2 identifies each processing point (node) along the JUMPS information processing network. Figure B-13 shows the primary elements of the overall JUMPS flow model, and figures B-14 through B-18 illustrate details of the various segments.

TABLE B-1

MMS PROCESSING NODES/STATES

<u>NODE</u>	<u>DESCRIPTION</u>
M-1	The occurrence of a pay-related event reportable through MMS.
M-2	The event (M-1) is reported on the Unit Diary (UD).
M-3	The UD that reports the event is received at the Administrative Control Unit (ACU) of the Satellite Data Processing Installation (SDPI).
M-4	The UD is submitted to the SDPI document scanner.
M-5	The UD is read by the scanner, with all information being recorded on magnetic tape.
M-6	The MMS tape is edited by the SDPI computer.
M-7	The UD entry passes edit and is forwarded (via AUTODIN) to the Central Design and Programming Activity (CDPA) in Kansas City, while simultaneously posting to paragraph 7 of the Unit Transaction Register (UTR) -- MMS records are not updated until the entry passes CDPA processing.
M-8	The entry is received at the Data Control Branch of the CDPA.
M-9	The entry is checked for format and edited by the CDPA computer.
M-10	The entry passes Edit/Format and enters Poster processing.
M-11	The entry posts to the Central Master Record (CMR), with a posting report going to paragraph 1 of the UTR.
M-12	The UD cannot be read by the SDPI document scanner and is rejected to the ACU for remedial action.
M-13	The UD is reworked by the ACU, as required.
M-16	The reworked UD entry is resubmitted to computer edit.
M-17	The corrected UTR paragraph 2 entry is submitted to computer edit.
M-18	The corrected/reworked UTR paragraph 5 entry is submitted to computer edit.
M-19	An entry previously rejected by the CDPA is re-edited by the SDPI.
M-20	The entry fails SDPI computer edit and is rejected to the ACU for action.

TABLE B-1 (Continued)

<u>NODE</u>	<u>DESCRIPTION</u>
M-21	The rejected entry requires no corrective action (i.e., it has been overtaken by events, etc.).
M-22	The rejected entry requires corrective action, but none is taken.
M-23	Corrective action is taken by the ACU and the corrected entry is resubmitted to the SDPI document scanner.
M-24	The corrected entry cannot be read by the scanner and is rejected to the ACU for additional action.
M-25	The corrected entry is read by the scanner, with all information being recorded on magnetic tape.
M-30	The entry fails SDPI computer edit and is rejected to the reporting unit (via UTR paragraph 2) for action.
M-31	The incorrect entry requires no corrective action (i.e., it has been overtaken by events, etc.).
M-32	The incorrect entry requires corrective action, but none is taken.
M-33	The UTR paragraph 2 entry is corrected by the RU and forwarded to the ACU/SDPI in a new UD.
M-34	The corrected UTR paragraph 2 entry is submitted to the SDPI document scanner.
M-35	The corrected UTR paragraph 2 entry cannot be read by the scanner and is rejected to the ACU for additional action.
M-36	The rejected entry is reworked by the ACU, as required.
M-37	The corrected UTR paragraph 2 entry is read by the scanner, with all information being recorded on magnetic tape.
M-40	The entry fails SDPI computer edit and is placed in the suspense file pending receipt of additional information required to complete processing.
M-50	The entry fails SDPI computer edit and is placed in UTR paragraph 5 pending action by the RU, ACU, or CDPA -- as indicated by the UTR advisory message.
M-51	The rejected UTR paragraph 5 entry requires no corrective action.

TABLE B-1 (Continued)

<u>NODE</u>	<u>DESCRIPTION</u>
M-52	The rejected UTR paragraph 5 entry requires action, but none is taken.
M-53	The UTR paragraph 5 entry is corrected by the RU and forwarded to the ACU/SDPI in a new UD.
M-54	The corrected UTR paragraph 5 entry is submitted to the SDPI document scanner.
M-55	The corrected UTR paragraph 5 entry cannot be read by the scanner and is rejected to the ACU for additional action.
M-56	The rejected entry is reworked by the ACU, as required.
M-57	The corrected UTR paragraph 5 entry is read by the scanner, with all information being recorded on magnetic tape.
M-60	A previously rejected entry is removed from the error control file due to transfer or separation of the individual, simultaneously posting to paragraph 4 of the UTR.
M-70	The entry is lost during edit -- i.e., the record of the event is erroneously erased from the tape.
M-77	The entry passes edit and is forwarded (via AUTODIN) to the CDPA for posting to the CMR, simultaneously updating the local MMS record and posting to paragraph 1 of the UTR.
M-80	An entry previously placed in the suspense file is lost -- i.e., no subsequent reference to the entry/event is made.
M-81	A previously rejected/erroneous entry is corrected and removed from the error control file, simultaneously posting to paragraph 3 of the UTR.
M-83	An entry previously placed in the suspense file remains there due to lack of amplifying information.
M-91	The entry fails in processing at the CDPA (either in Edit-Format or Poster processing) and is rejected to the ACU/SDPI for action.
M-99	The pay-related event is not reported on the UD.

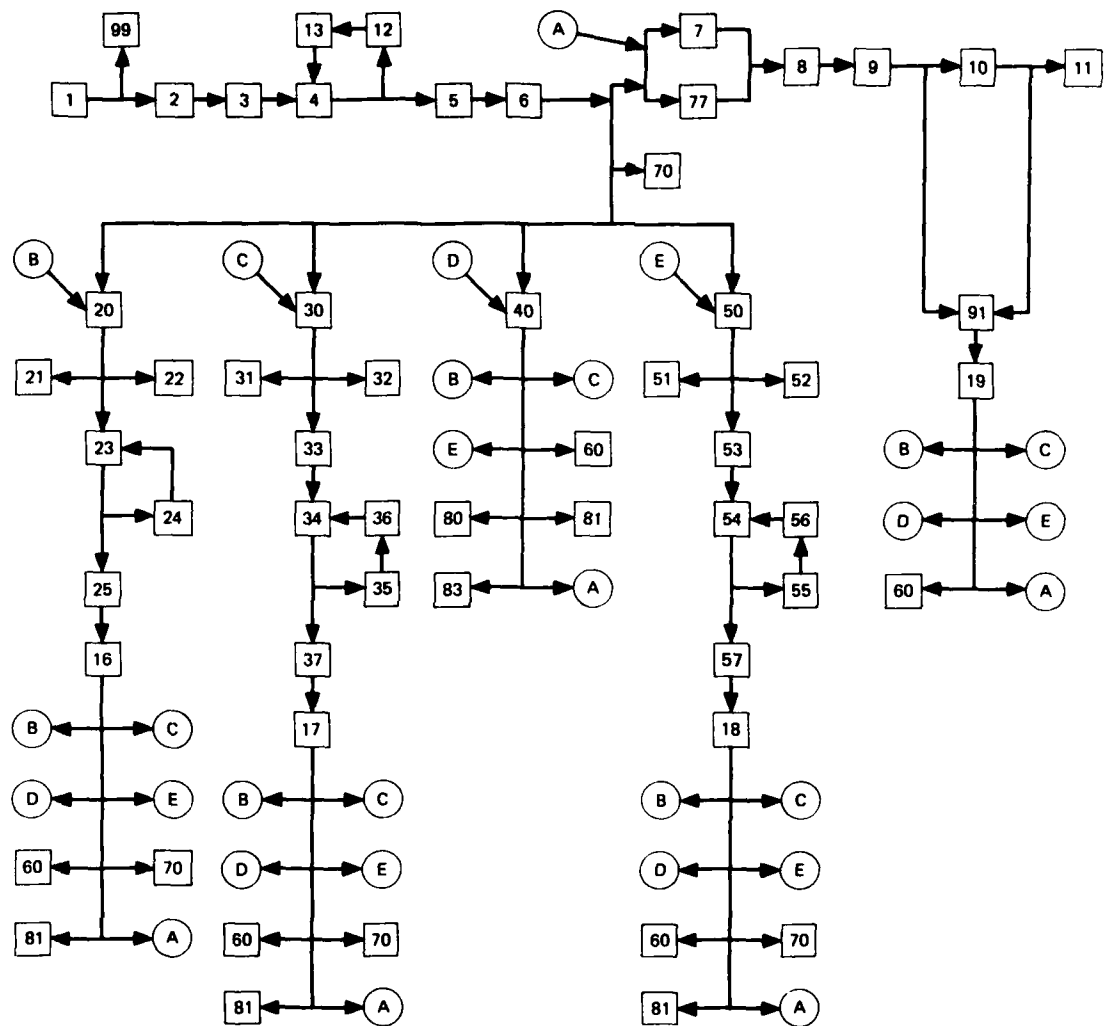


FIG. B-1: MMS INFORMATION FLOW MODEL

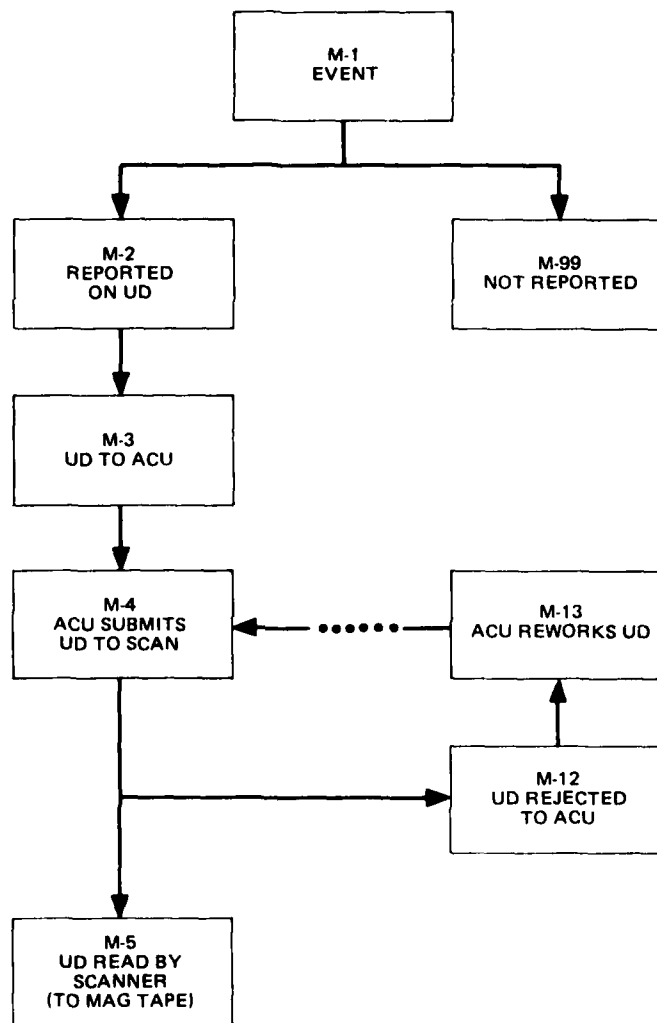


FIG. B-2: MMS DATA FLOW FROM EVENT TO SCANNER

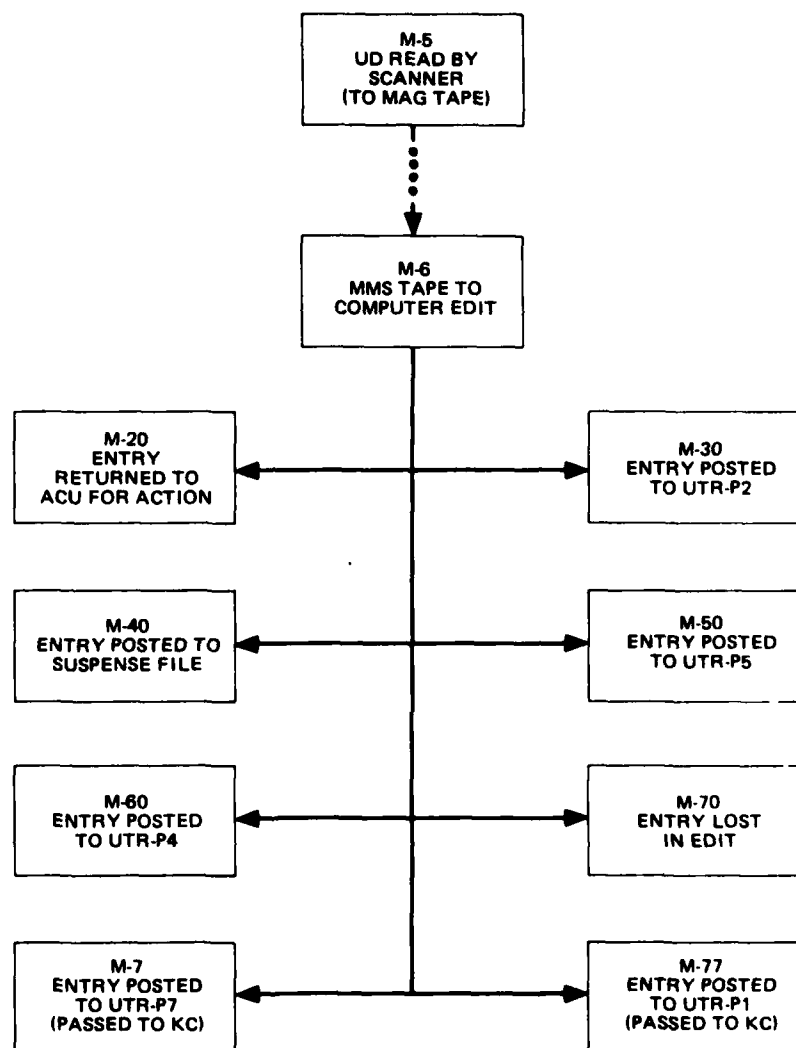


FIG. B-3: INITIAL DISTRIBUTION OF MMS ENTRIES

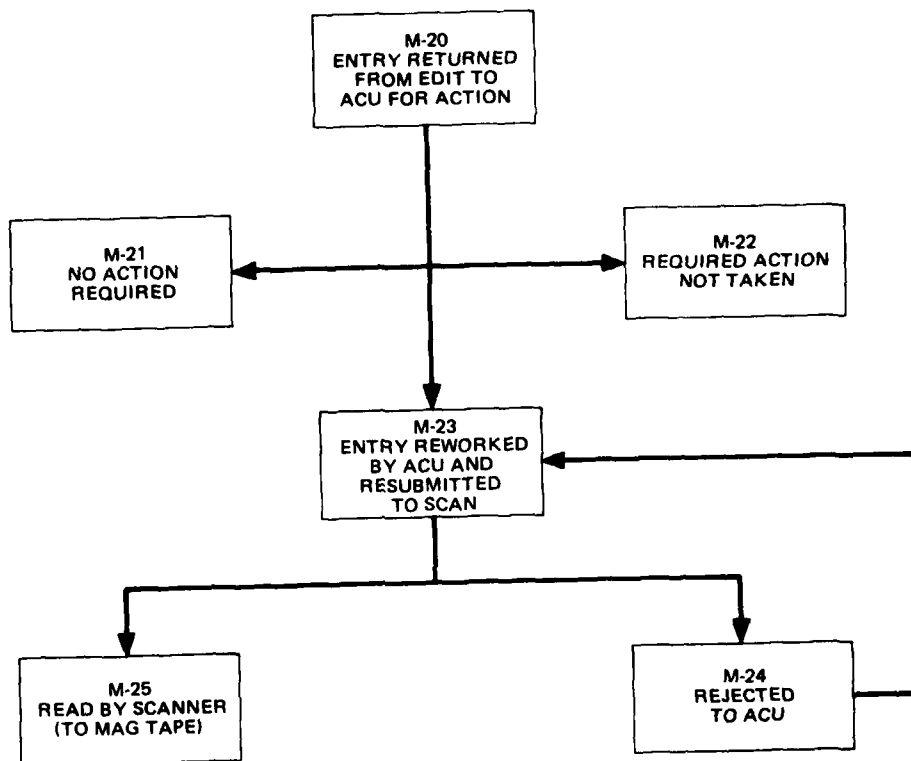


FIG. B-4: ACU PROCESSING OF MMS EDIT REJECTS

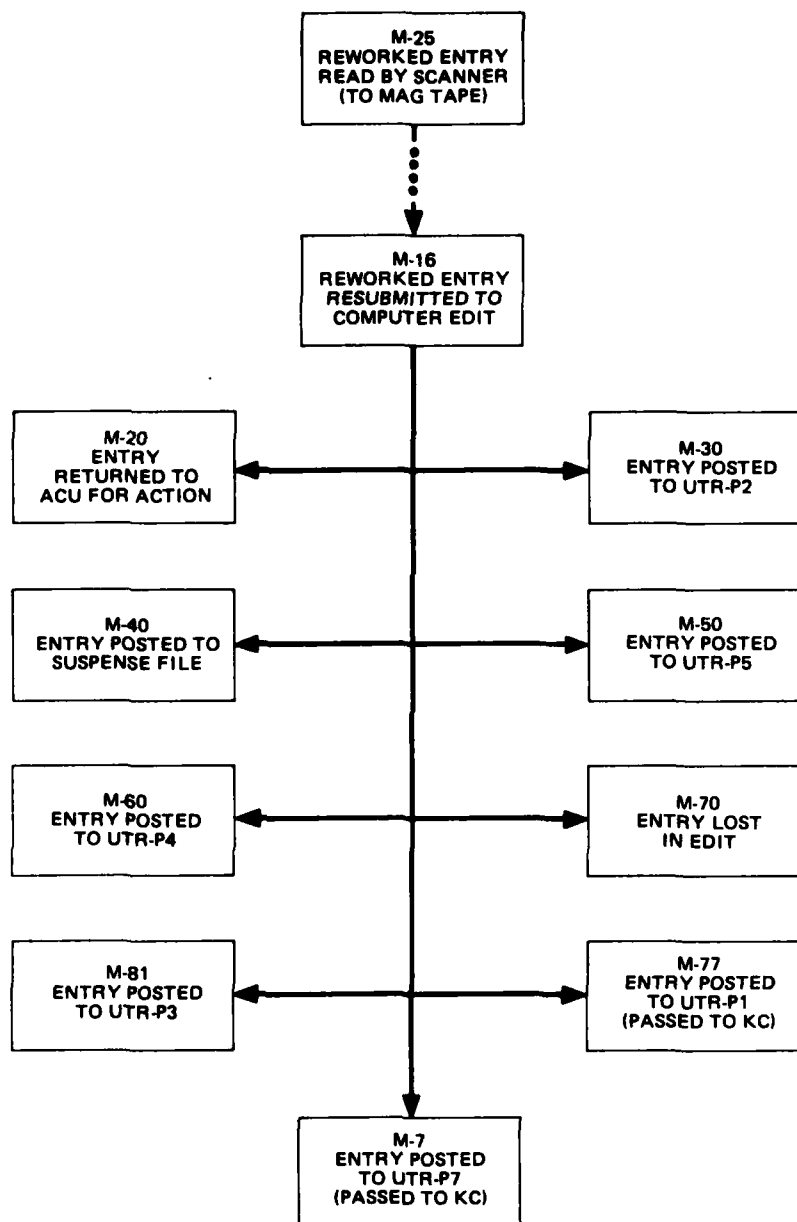


FIG. B-5: DISTRIBUTION OF CORRECTED EDIT REJECTS

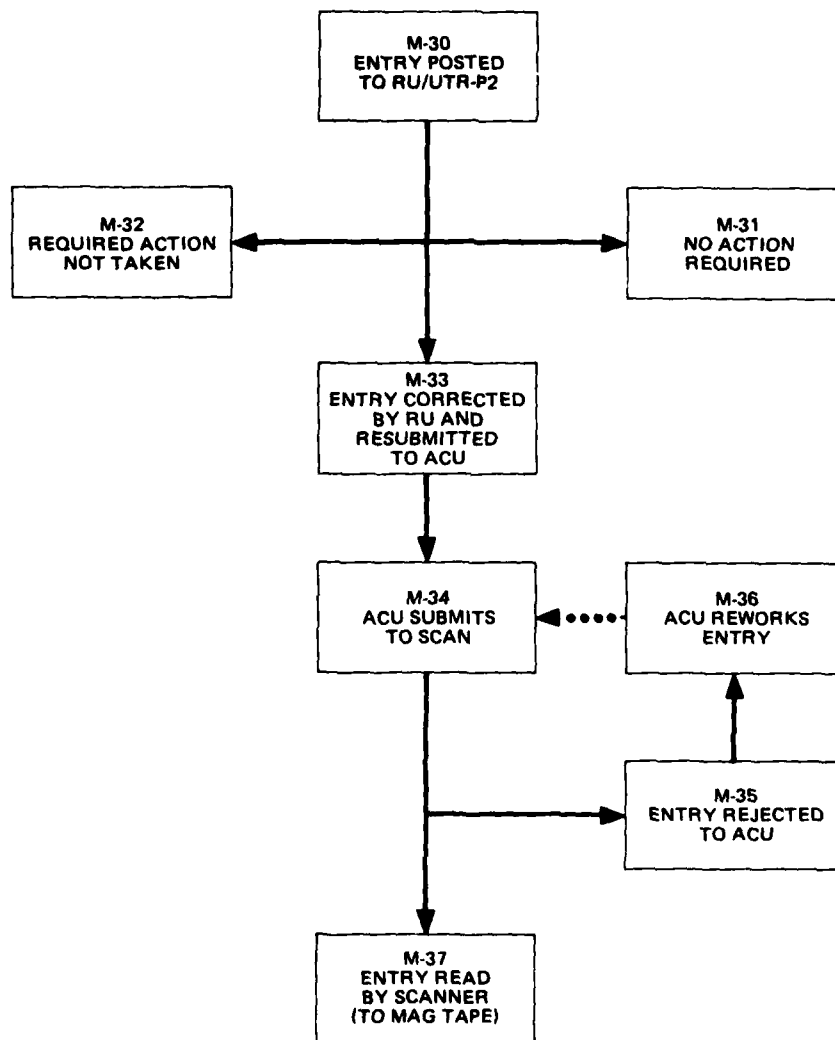


FIG. B-6: PROCESSING OF UTR PARAGRAPH 2 ENTRIES

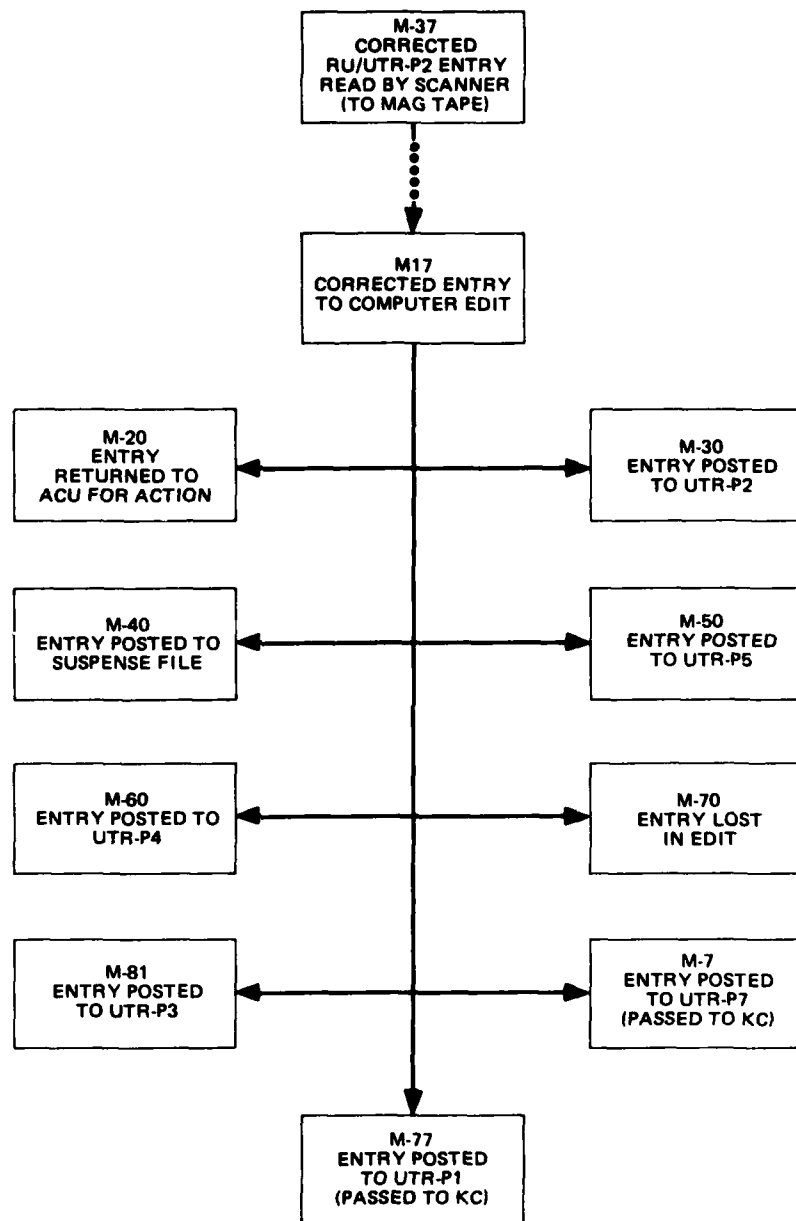


FIG. B-7: DISTRIBUTION OF CORRECTED UTR PARAGRAPH 2 ENTRIES

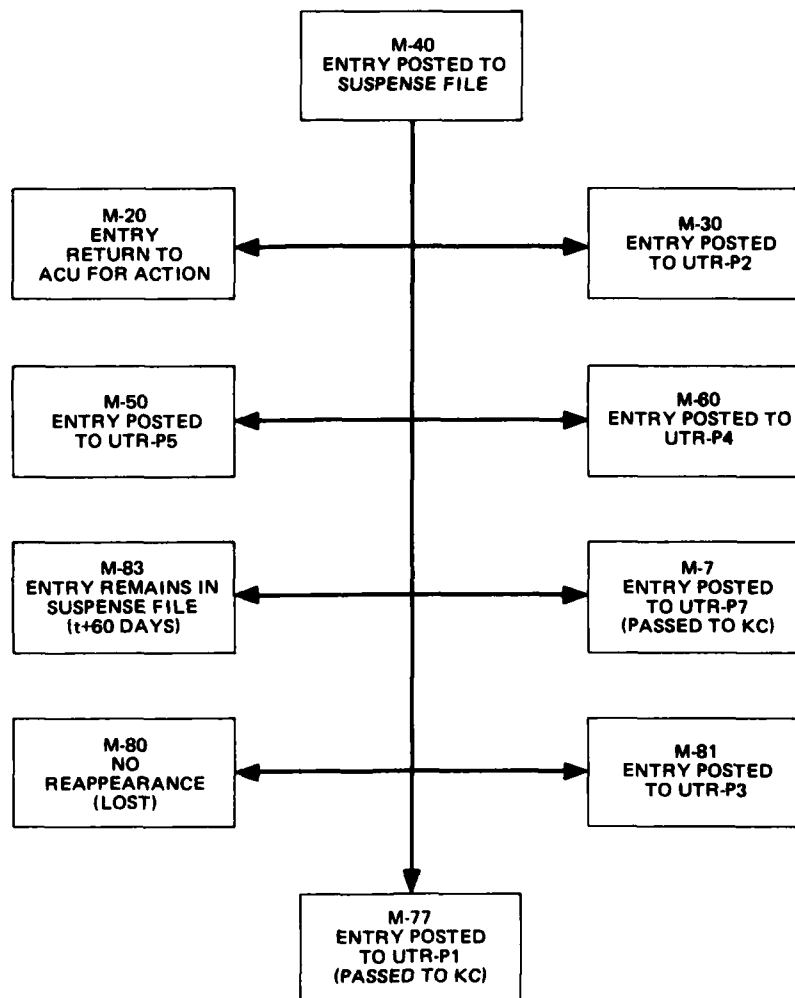


FIG. B-8: DISTRIBUTION OF ENTRIES IN SUSPENSE FILE

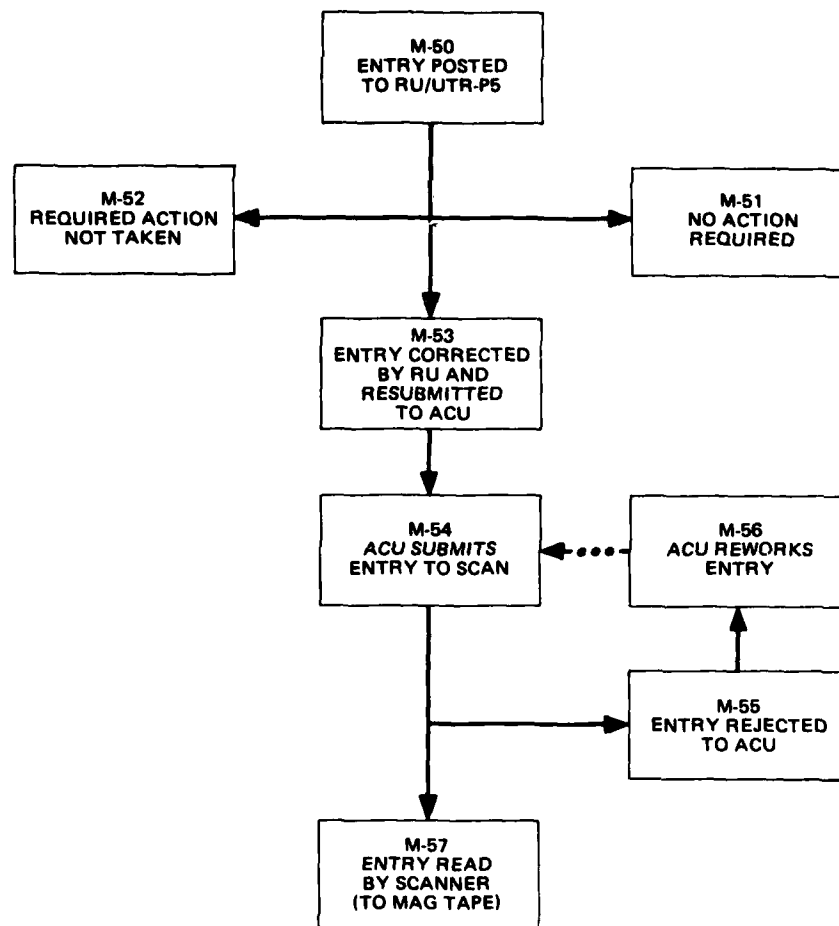


FIG. B-9: PROCESSING OF UTR PARAGRAPH 5 ENTRIES

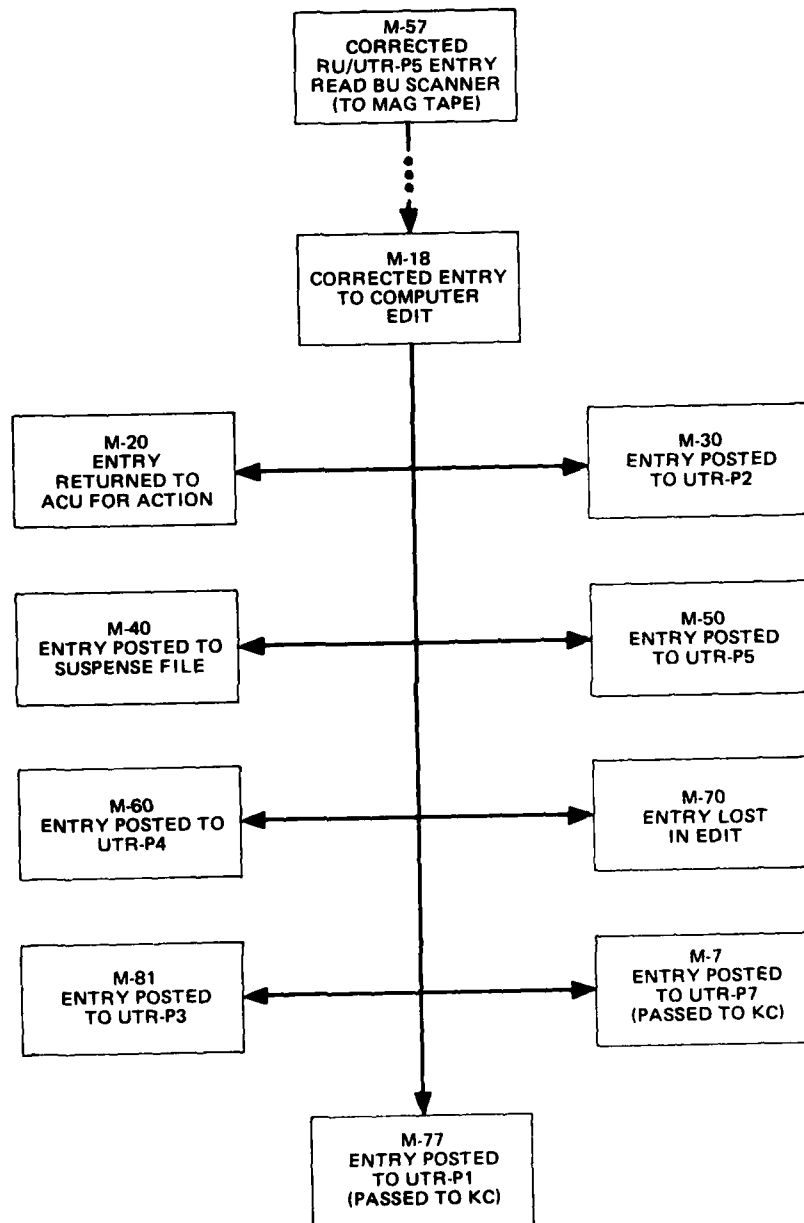


FIG. B-10: DISTRIBUTION OF CORRECTED UTR PARAGRAPH 5 ENTRIES

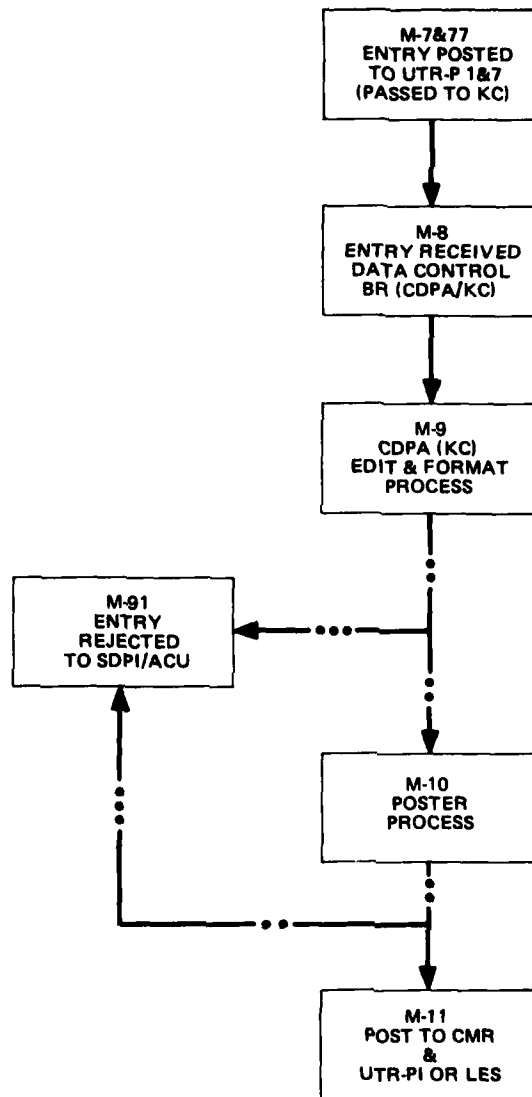


FIG. B-11: MMS PROCESSING AT CDPA

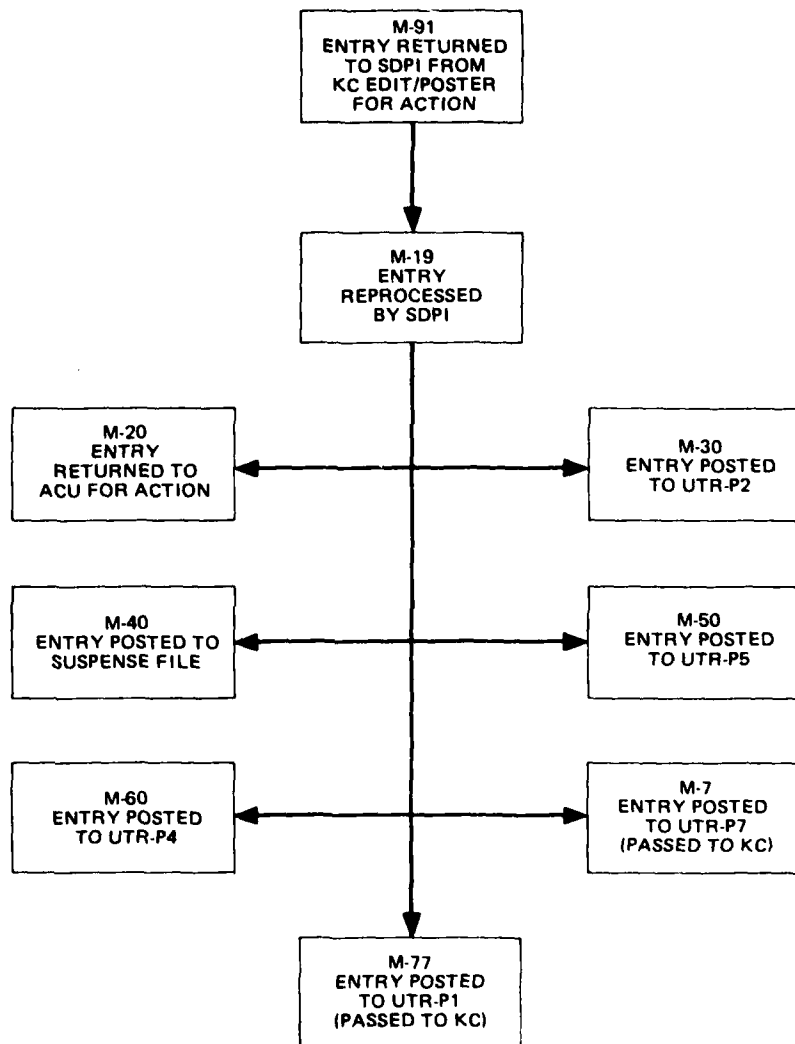


FIG. B-12: PROCESSING OF MMS ENTRIES REJECTED BY CDPA

TABLE B-2

JUMPS PROCESSING NODES/STATES

<u>NODE</u>	<u>DESCRIPTION</u>
J-1	The occurrence of an event reportable through Jumps (J-1 is a virtual state, used solely for the purpose of demonstrating the relative proportion of ABA- and TODE-type events).
J-10	The occurrence of an event that requires a Transcript of Data Extraction (TODE).
J-11	The source documents that substantiate the TODE event are not prepared by the RU.
J-12	The RU prepares and forwards the TODE source documents.
J-13	The TODE source documents are lost prior to receipt at the Disbursing Office (DO).
J-14	The TODE source documents are received at the DO for processing.
J-15	The TODE source documents are lost at the DO.
J-16	The TODE is created by the DO.
J-17	The TODE (with accompanying source documents) is lost at the DO.
J-18	A document transmittal letter (DTL) is prepared for the TODE.
J-19	The TODE/DTL is submitted to decentralized (local) processing.
J-20	The TODE/DTL is submitted to centralized processing -- at the Marine Corps Finance Center (MCFC).
J-21	The TODE/DTL is submitted to the SDPI document scanner.
J-22	The TODE/DTL is lost during local scanning.
J-23	The TODE/DTL is read by the scanner and forwarded for mailing to the MCFC.
J-24	The TODE is rejected and returned to the DO for action.
J-25	The rejected TODE is lost prior to being corrected by the DO.
J-26	The rejected TODE is corrected and forwarded for inclusion in a new DTL.

TABLE B-2 (Continued)

<u>NODE</u>	<u>DESCRIPTION</u>
J-27	The TODE/DTL (whether centrally or decentrally processed) is mailed to the MCFC.
J-29	The TODE/DTL is received at the Active Duty Pay (ADP) Branch of the MCFC.
J-30	The TODE/DTL is submitted to the MCFC scanner -- unless previously scanned (decentrally).
J-32	The TODE is read by the MCFC scanner and forwarded for additional processing.
J-33	The TODE is rejected by the MCFC scanner and returned to the ADP Branch for action.
J-34	The TODE is submitted to MCFC Edit-Format-Poster (EFP) processing -- from both central and satellite scanners.
J-35	The TODE fails EFP processing and is rejected to the ADP Branch for action.
J-36	The rejected TODE is received at the ADP Branch.
J-37	The rejected TODE cannot be corrected by the ADP Branch and is returned to the DO.
J-38	The rejected TODE is reworked by the ADP Branch.
J-50	The occurrence of an event that requires an Allotment and Bond Authorization (ABA).
J-51	The required ABA is not prepared by the RU.
J-52	The RU prepares the ABA and forwards it to the DO.
J-53	The ABA is lost prior to receipt at DO.
J-54	The ABA is received at the DO.
J-55	The ABA is lost at the DO.
J-56	A DTL is prepared for the ABA.

TABLE B-2 (Continued)

<u>NODE</u>	<u>DESCRIPTION</u>
J-57	The ABA/DTL is submitted to centralized processing (at MCFC).
J-58	The ABA/DTL is submitted to decentralized (local) processing.
J-59	The ABA/DTL is submitted to the SDPI document scanner.
J-60	The ABA/DTL is read by the scanner and forwarded for mailing to the MCFC.
J-61	The ABA/DTL is lost during local scanning.
J-62	The ABA/DTL is rejected and returned to the DO for action.
J-63	The rejected ABA is lost prior to being corrected by the DO.
J-64	The rejected ABA is corrected and forwarded for inclusion in a new DTL.
J-65	The ABA/DTL is mailed to the MCFC (both centralized and decentralized processing).
J-67	The ABA/DTL is received at the Allotment Branch of the MCFC.
J-68	The ABA/DTL is submitted to the MCFC scanner -- unless previously scanned (decentrally).
J-70	The ABA/DTL is read by the MCFC scanner and forwarded for additional processing.
J-71	The ABA is rejected by the MCFC scanner and returned to the Allotment Branch for action.
J-72	The ABA/DTL is submitted to MCFC Edit and Format processing.
J-73	The ABA fails Edit and Format processing and is returned to the Allotment Branch for action.
J-74	The rejected ABA is received at the Allotment Branch.
J-75	The rejected ABA cannot be corrected by the Allotment Branch and is returned to the DO.

TABLE B-2 (Continued)

<u>NODE</u>	<u>DESCRIPTION</u>
J-76	The rejected ABA is reworked by the Allotment Branch.
J-88	The ABA is submitted to poster processing (from both centralized and decentralized sources).
J-99	The event passes poster processing and parts to the Master Military Pay Account (MMPA).

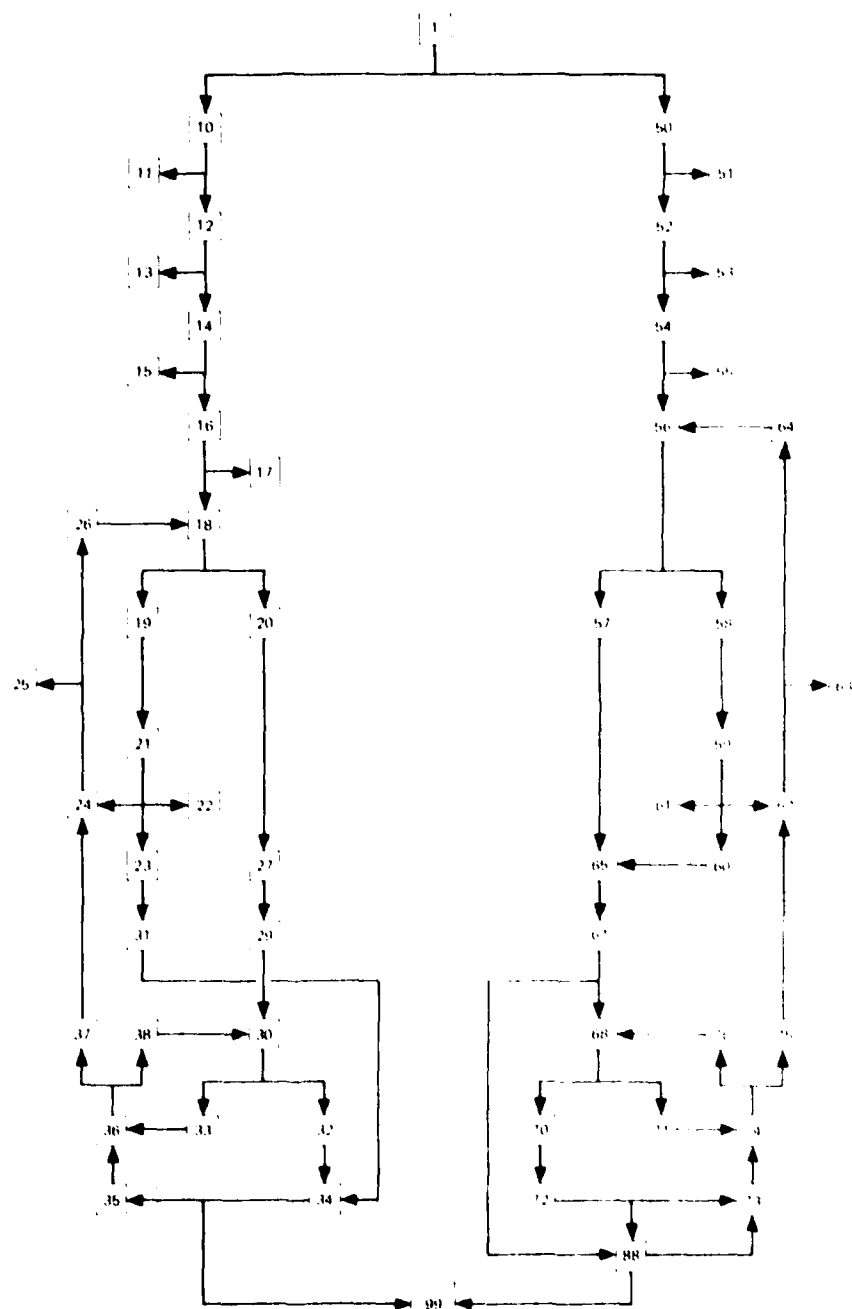


FIG. B-13: JUMPS INFORMATION FLOW MODEL

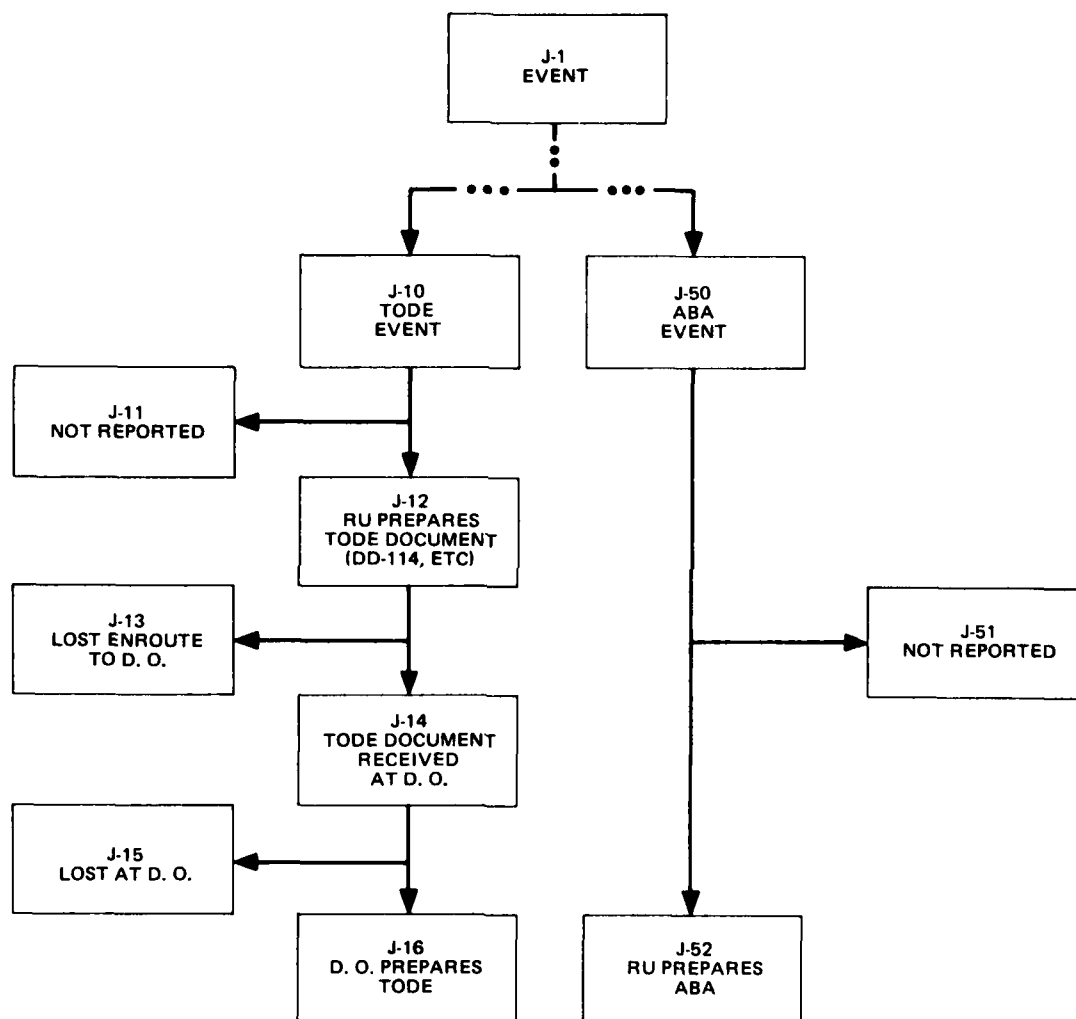


FIG. B-14: JUMPS DATA FLOW FROM EVENT TO ABA/TODE

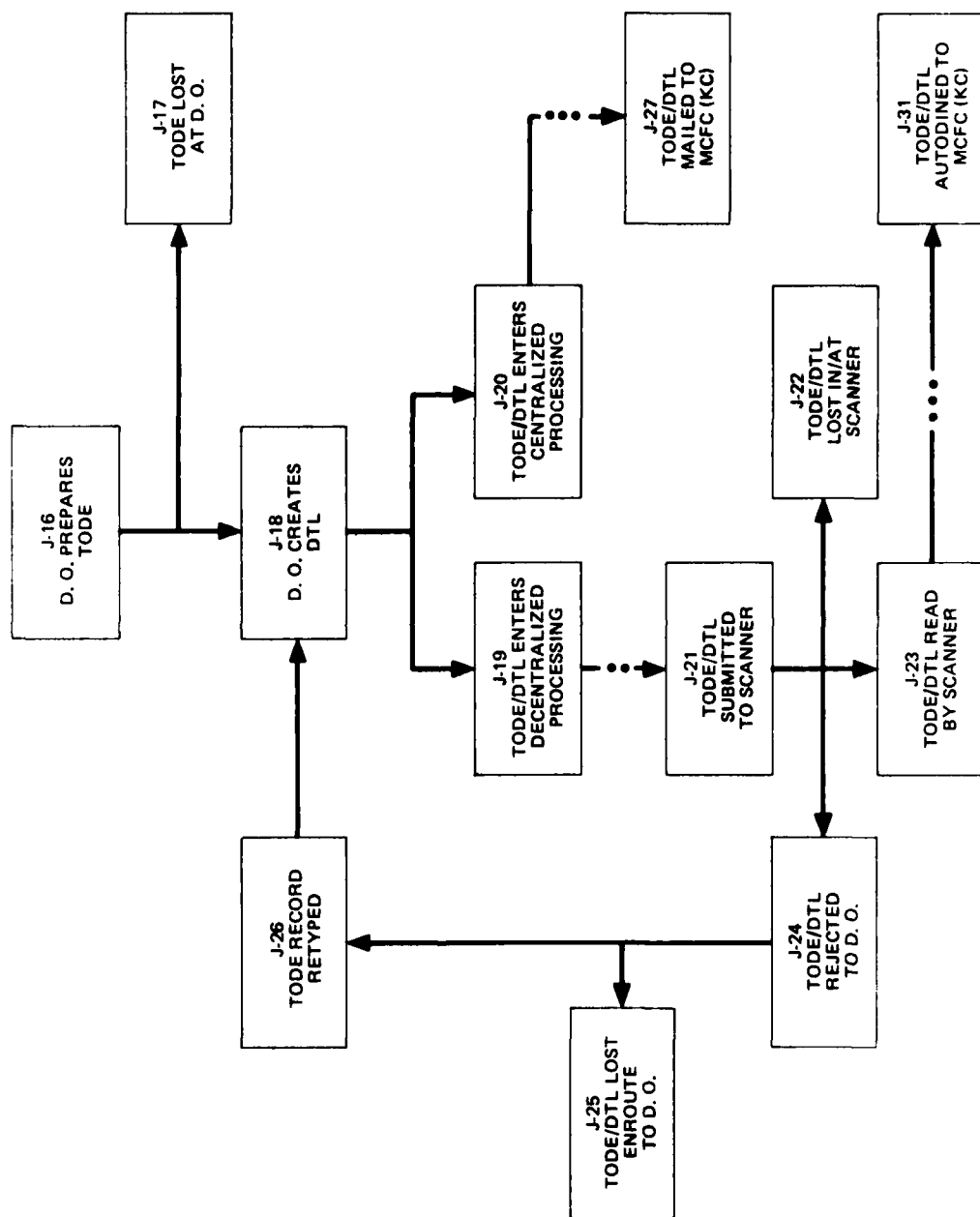


FIG. B-15: DECENTRALIZED PROCESSING OF TODEs

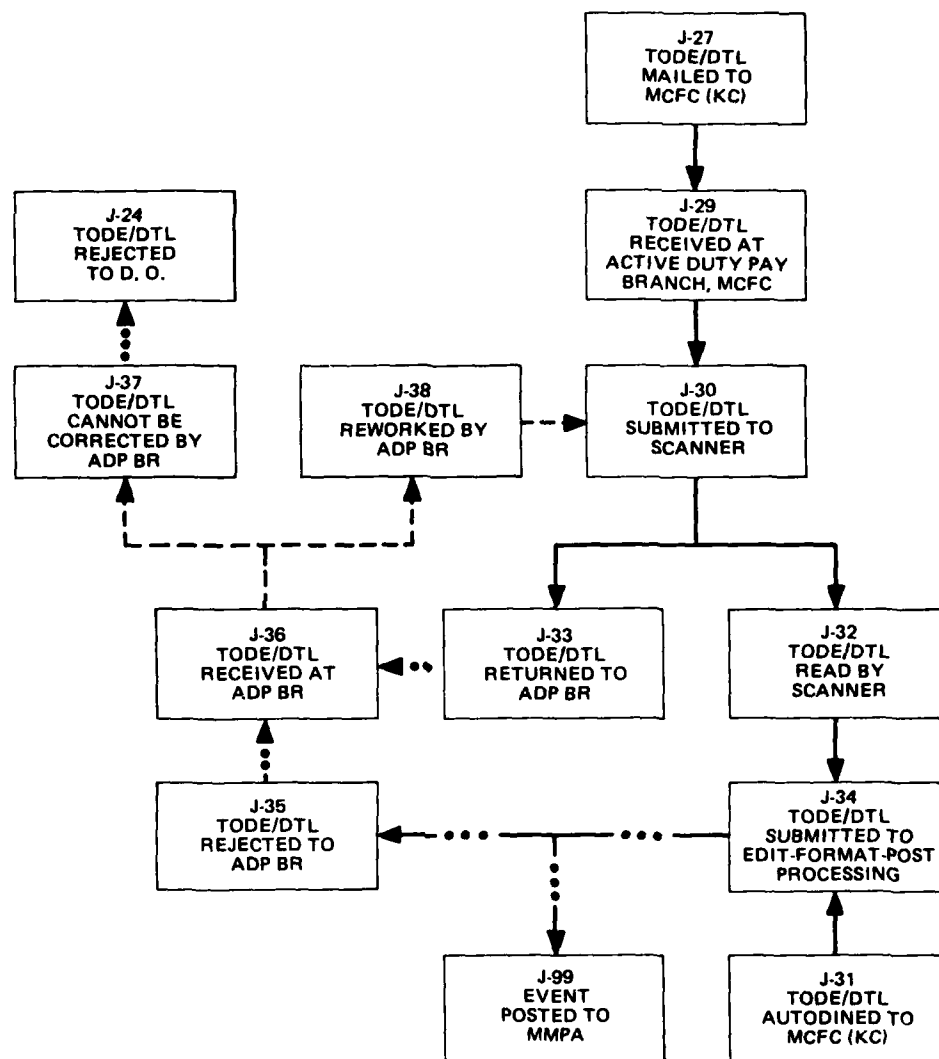


FIG. B-16: CENTRALIZED PROCESSING OF TODEs

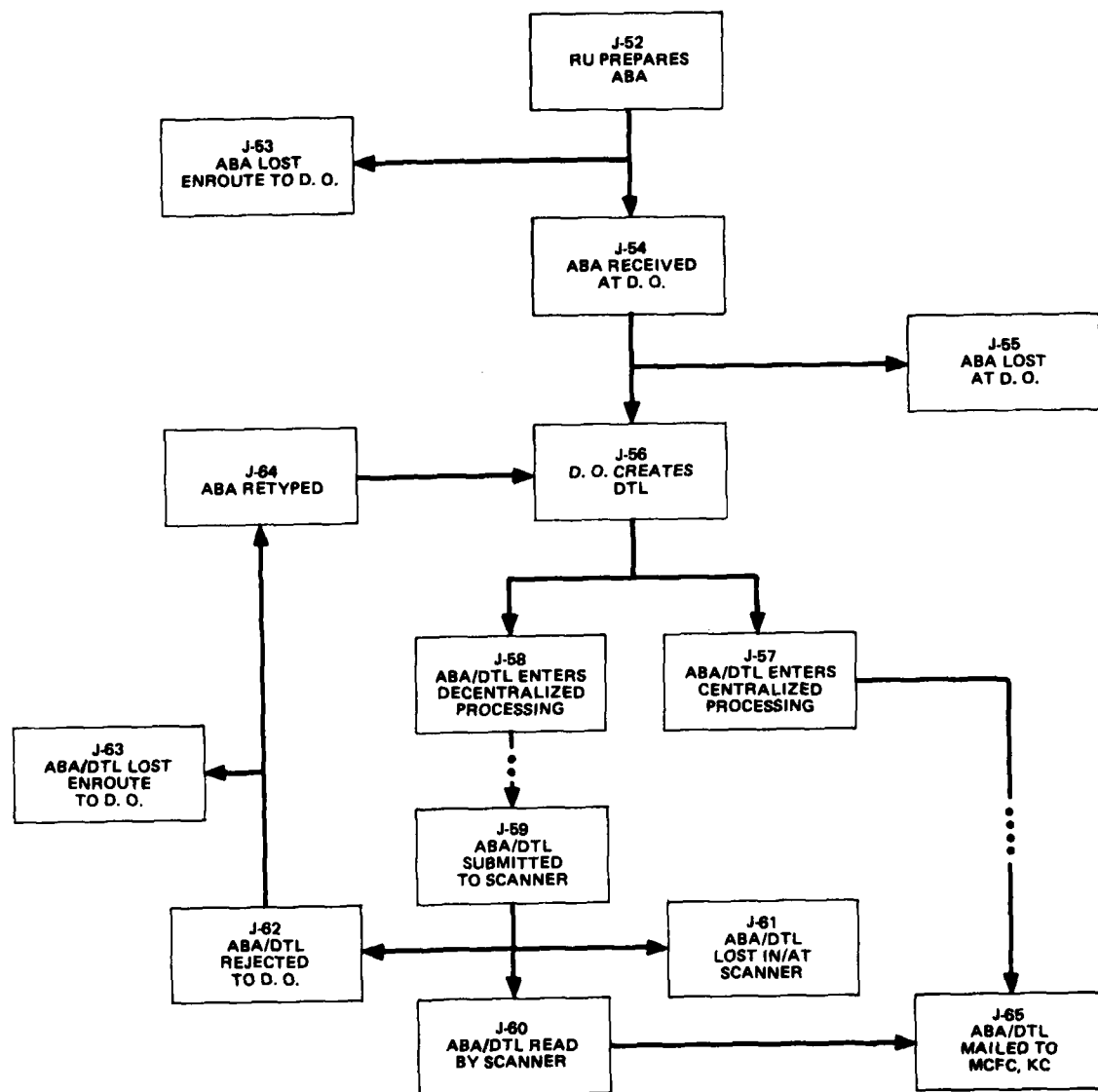


FIG. B-17: DECENTRALIZED PROCESSING OF ABA's

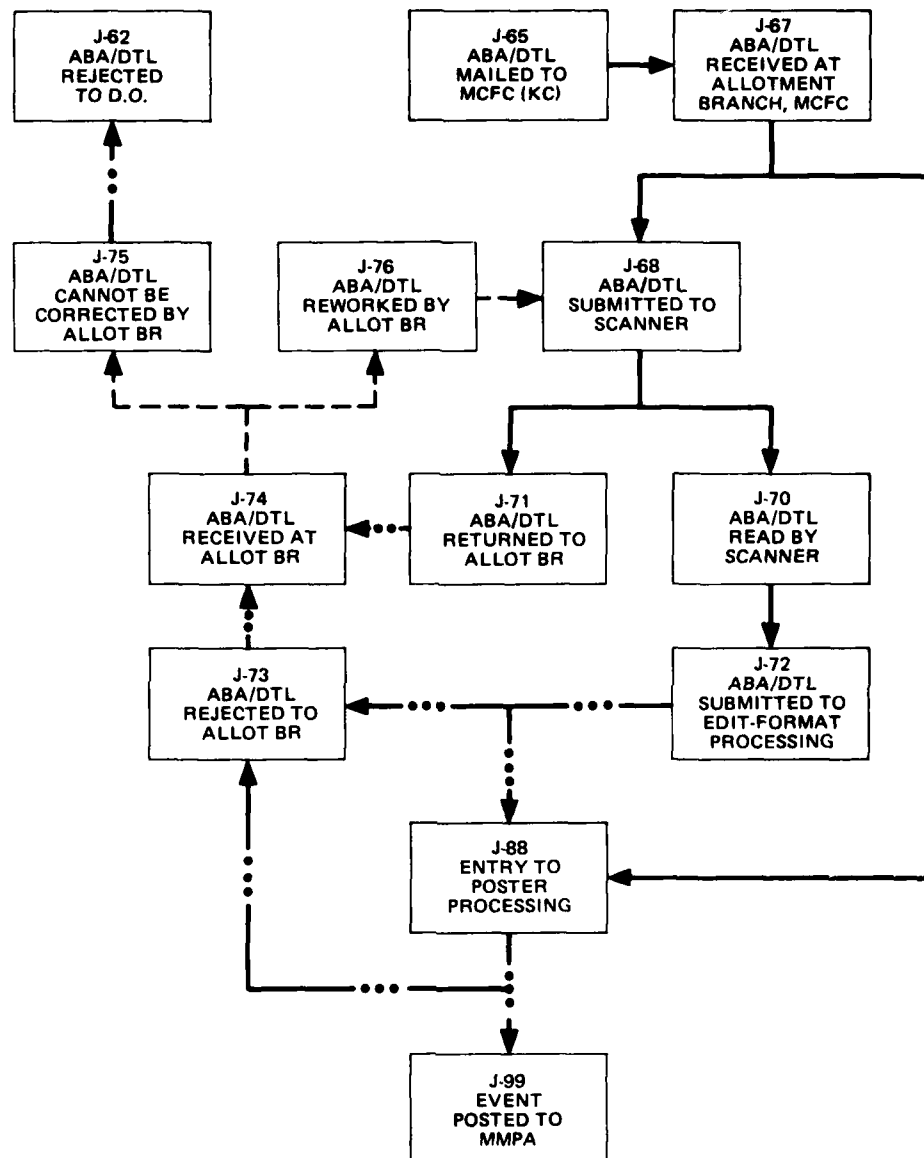


FIG. B-18: CENTRALIZED PROCESSING OF ABAs

APPENDIX C
DATA COLLECTION

APPENDIX C

DATA COLLECTION

This appendix contains the detailed instructions that were provided for data collection. Tables C-1 and C-2 list the reporting units and types of events, respectively, included in the analysis. Tables C-3 and C-4 illustrate the relationship between the data collection forms and specific JUMPS/MMS transitions. The entries in the "Transition from" columns correspond to labels for specific points in the processing network, as explained in appendix B. The data collection forms and instruction are illustrated in annex C-1.

TABLE C-1

REPORTING UNITS

<u>Unit</u>	<u>Reporting unit code (RUC)</u>
Data Group 1: MCB, Camp LeJeune	
Headquarters Company, HqSvc.Bn.	31002
Motor Transport Company, HqSvc.Bn.	31005
Rifle Range Detachment, HqSvc.Bn.	31012
Reserve Liaison Unit	31015
Military Police Company, HqSvc.Bn.	31018
SU 2, Headquarters Company, HqSvc.Bn.	31019
Service Company, HqSvc.Bn.	31022
Correctional Services Company, HqSvc.Bn.	31030
HqSvc. Company, Base Mat.Bn.	31051
Permanent Personnel, Svc.Spt.Schools	31315
Supply School Company	31316
Food Service School Company, Svc.Spt. Schools	31317
Motor Transport School Company, Svc. Spt. Schools	31318
HqSvc. Company, Engr.School	31401
Engr. Equip. Instruction Company	31406
Data Group 2: Second FSSG	
HqSvc. Company 2nd Med Bn	12021
LSU 38, Force Troops, Camp LeJeune	20038
2nd 177 mm Gun Btry. (Sp)	21247
5th 175 mm. Gun Btry. (Sp)	21257
2nd 155 mm. How. Btry. (Sp)	21267
3rd 155 mm. How. Btry. (Sp)	21268
2nd 8-Inch How. Btry. (Sp)	21290
HqSvc. Co., 8th Engr.Spt.Bn.	21311
Engr. Spt. Co., 8th Engr.Spt.Bn.	21312
Company B, 8th Engr.Spt.Bn.	21314
Company C, 8th Engr.Spt.Bn.	21315
2nd ANGLICO	21625
Headquarters Company, 8th Comm.Bn.	21641
Communication Company, 8th Comm.Bn.	21643
Comm.Spt.Company, 8th Comm.Bn.	21644
Long Lines Company, 8th Comm.Bn.	21645
Hospital Company, 2nd Med.Bn.	21730

TABLE C-1 (Continued)

Data Group 2: Second FSSG (Continued)

<u>Unit</u>	<u>RUC</u>
HqSvc. Co., 20 Assault Amphibian Bn.	21811
Company B, Assault Amphibian Bn.	21813
Hq. Battery, 2nd Field Artillery Group	22256
HqSvc. Company, 8th M.T.Bn.	27011
Transport Company, 8th M.T.Bn.	27036
Truck Company, 8th M.T.Bn.	27037
HqSvc. Company, HqSvc.Bn.	27102
Communications Company, HqSvc.Bn.	27103
Service Company, HqSvc.Bn.	27108
Ammunition Company, 2nd SupplyBn.	27113
Bulk Fuel Company, 8th Engr.Spt.Bn.	27114
HqSvc. Company, 2nd Sup.Bn.	27118
Supply Company, 2nd Supply Bn.	27119
HqSvc. Company, 2nd Maint.Bn.	27122
Elec. Maint. Co., 2nd Maint.Bn.	27124
Engr. Maint. Co., 2nd Maint.Bn.	27125
M.T. Maint. Co., 2nd Maint.Bn.	27126
Ordnance Maint. Co., 2nd Maint.Bn.	27127
Gen. Supply Maint. Co., 2nd Maint.Bn.	27128
Ration Company, 2nd Sup.Bn.	27130

Data Group 3: Second Marine Regiment

Headquarters Company	12101
HqSvc. Company, 1stBn.	12111
Company A, 1stBn.	12113
Company B, 1stBn.	12114
Company C, 1stBn.	12115
Company D, 1stBn.	12116
HqSvc. Company, 2ndBn.	12121
Company E, 2ndBn.	12124
Company F, 2ndBn.	12125
Company G, 2ndBn.	12126
Company H, 2ndBn.	12127
HqSvc. Company, 3rdBn.	12131
Company I, 3rdBn.	12135
Company K, 3rdBn.	12136
Company L, 3rdBn.	12137
Company M, 3rdBn.	12138

TABLE C-1 (Continued)

<u>Unit</u>	<u>RUC</u>
Data Group 4: Sixth Marine Regiment	
Headquarters Company	12151
HqSvc. Company, 1stBn.	12161
Company A, 1stBn.	12163
Company B, 1stBn.	12164
Company C, 1stBn.	12165
Company D, 1stBn.	12166
HqSvc. Company, 2ndBn.	12171
Company E, 2ndBn.	12174
Company F, 2ndBn.	12175
Company H, 2ndBn.	12177
Data Group 5: Eighth Marine Regiment	
HqSvc. Service Company, 2ndBn.	12221
Company E, 2ndBn.	12224
Company F, 2ndBn.	12225
Company G, 2ndBn.	12226
Company H, 2ndBn.	12227
HqSvc. Company, 3rd Bn.	12231
Company I, 3rdBn.	12235
Company K, 3rdBn.	12236
Company L, 3rdBn.	12237
Company M, 3rdBn.	12238
Data Group 6: Tenth Marine Regiment	
Headquarters Battery	12301
Headquarters Battery, 1stBn.	12311
Battery A, 1stBn.	12313
Battery B, 1stBn.	12314
Battery C, 1stBn.	12315
Headquarters Battery, 2ndBn.	12321
Battery D, 2ndBn.	12323
Battery E, 2ndBn.	12324
Battery F, 2ndBn.	12325
Headquarters Battery, 3rdBn.	12331
Battery G, 3rdBn.	12333
Battery H, 3rdBn.	12334
Battery I, 3rdBn.	12335
Battery K, 3rdBn.	12343
Battery L, 3rdBn.	12344
Battery M, 3rdBn.	12345

TABLE C-1 (Continued)

<u>Unit</u>	<u>RUC</u>
Data Group 7: MCAS, Cherry Point	
H & HS, MCAS, Cherry Point	02002
SOES, MCAS, Cherry Point	02007
Data Group 8: MAG-14, 2nd MAW	
VMAQ 2	01008
H & MS 14	01068
Data Group 9: MWSG-27, 2nd MAW	
H & GMS 27	00317
WES 27 2D	00319
WTS 27 2D	00320
VMGR 252	01252
Data Group 10: MACG-28, 2nd MAW	
MACS 6	00973
MASS 1	00980
HQQQRON 28	01145
Data Group 11: MAG-32, 2nd MAW	
H & MS 32	01089
VMAT 203	01203
VMA 223	01223
VMA 231	01231
VMA 331	01331
Data Group 12: MCB, Camp Pendleton	
HqSvc. Company, M.P.Bn.	33044
HqSvc. Company, Base Mat.Bn.	33051
Headquarters Company, HqSvc.Bn.	33061
Service Company, HqSvc.Bn.	33071
Casual Company, HqSvc.Bn.	33098
Movement Coordination Center	33110
HqSvc. Co., Corrections Battalion	33131
Separation/Reception Ctr., Hq.Co.,HqSvc.Bn.	33149
HqSvc. Co., Infantry Training School	33351
Student Admin. Company	33353
Mountain Warfare Training Center	33610
Weapons Training Bn.,MCRD,Edson Range	33710
Schools Company, Schools Bn.	33808

TABLE C-1 (Continued)

<u>Unit</u>	<u>RUC</u>
Data Group 13: First FSSG	
HqSvc. Company, 1st Med.Bn.	11021
HqSvc. Company, 7th M.T.Bn.	11651
HqSvc. Company, 7th Engr.Spt.Bn.	21301
Engr. Spt. Company, 7th Engr.Spt.Bn.	21302
Co A, 7th Engr.Spt.Bn.(Det A), 29 Palms	21303
Company B, 7th Engr.Spt.Bn.	21304
Company C, 7th Engr.Spt.Bn.	21305
HqSvc. Company, HqSvc.Bn.	28302
Communications Company, HqSvc.Bn.	28303
Truck Company, 7th M.T.Bn.	28305
Beach & Port Operations Company, HqSvc.Bn.	28307
Ammunition Company, 1st Sup.Bn.	28313
1st Bulk Fuel Company, 7th Engr.Supt.Bn.	28314
HqSvc. Company, 1st Sup.Bn.	28318
Supply Company, 1st Sup.Bn.	28319
HqSvc. Company, 1st Maint.Bn.	28322
Electronics Maint. Company, 1st Maint.Bn.	28324
Engineer Maint. Company, 1st Maint.Bn.	28325
Ordnance Maint. Company, 1st Maint.Bn.	28327
Service Company, HqSvc.Bn.	28334
2nd Force Reconnaissance Company	29351
Data Group 14: First Marine Regiment	
Headquarters Company	11104
HqSvc. Company, 1stBn.	11111
Company A, 1stBn.	11113
Company B, 1stBn.	11114
Company C, 1stBn.	11115
HqSvc. Company, 2ndBn.	11121
Company E, 2ndBn.	11124
Company F, 2ndBn.	11125
Company G, 2ndBn.	11126
HqSvc. Company, 3rdBn.	11131
Company I, 3rdBn.	11135
Company K, 3rdBn.	11136
Company L, 3rdBn.	11137

TABLE C-1 (Continued)

<u>Unit</u>	<u>RUC</u>
Data Group 15: Fifth Marine Regiment	
Headquarters Company	11154
HqSvs. Company, 1stBn.	11161
Company A, 1stBn.	11163
Company B, 1stBn.	11164
Company C, 1stBn.	11165
HqSvc. Company, 2ndBn.	11171
Company E, 2ndBn.	11174
Company F, 2ndBn.	11175
Company G, 2ndBn.	11176
2rd Battalion	11180
Data Group 16: Seventh Marines	
Headquarters Company	11204
HqSvc. Company, 1stBn.	11211
Company A, 1stBn.	11213
Company B, 1stBn.	11214
Company C, 1stBn.	11215
HqSvc. Company, 2ndBn.	11221
Company E, 2ndBn.	11224
Company F, 2ndBn.	11225
Company G, 2ndBn.	11226
HqSvc. Company, 3rdBn.	11231
Company I, 3rdBn.	11235
Company K, 3rdBn.	11236
Company L, 3rdBn.	11237
Data Group 17: Eleventh Marine Regiment	
Headquarters Battery	11303
Battery A, 1stBn.	11313
Battery B, 1stBn.	11314
Battery C, 1stBn.	11315
Headquarters Battery, 1stBn.	11316
Battery D, 2ndBn.	11323
Battery E, 2ndBn.	11324
Battery F, 2ndBn.	11325
Headquarters Battery, 2ndBn.	11326
Battery G, 3rdBn.	11333
Battery H, 3rdBn.	11334
Battery I, 3rdBn.	11335
Headquarters Battery, 3rdBn.	11336
Battery K, 1stBn.	11343
Battery L, 2ndBn.	11344

TABLE C-1 (Continued)

<u>Unit</u>	<u>RUC</u>
Data Group 18: MCAS, El Toro	
HQHQRON	02201
SU 1 HQHQRON, MCALF, CamPen.	02208
Data Group 19: MAG-11, 3rd MAW	
VMFP 3	01002
H & MS 11	01065
MABS 11	01067
VMFA 314	01314
VMFA 323	01323
VMFA 531	01531
Data Group 20: MAG-13, 3rd MAW	
H & MS 13	01013
MABS 13	01015
VMA 211	01211
VMA AW 242	01242
VMA 311	01311
Data Group 21: MWSG-37, 3rd MAW	
H & GMS 37	00117
WTS 37	00118
WES 37	00119
VMGR 352	01352
Data Group 22: MACG-38, 3rd MAW	
MWCS 38	00307
MASS 3	00981
HQHQRON 38	01144

TABLE C-2

JUMPS/MMS PAY-RELATED EVENT CODES

<u>Event code</u>	<u>Event</u>	<u>Sample size</u>
010	Advance pay & allowances	1
012	Advance pay & allowance-credit	508
013	Advance pay & allowance-check	19
021	Allotments-Charity Start	6
022	Allotments-Charity Stop	14
032	Allotments-NSLI-Stop	2
041	Allotments-Savings-Start	484
042	Allotments-Savings Stop	217
043	Allotments-Savings-Change in Amount	315
051	Allotments-Support-Start	325
052	Allotments-Support-Stop	155
053	Allotments-Support-Change in Amount	125
061	Allotments-Misc.-Start	116
062	Allotments-Misc.-Stop	157
063	Allotments-Misc.-Change in Amount	38
070	Bonds	2
071	Bonds-Start	78
072	Bonds-Stop	52
081	Clothing Allowance-CCRA-Start	2
090	Clothing Allowance-CMA	39
091	Clothing Allowance-CMA-Start	77
092	Clothing Allowance-CMA-Credit	1
093	Clothing Allowance-CMA-Stop	2
094	Clothing Checkage	200
095	RCMA	436
096	C&SS Checkage	3
102	Clothing Allowance-ICCA-Credit	2
111	Comrats-Start	2,241
112	Comrats-Credit	28
113	Comrats-Check	365
114	Comrats-Stop	739
121	Confinement To	395
122	Confinement From	140
131	COLA-Start	1
132	COLA-Stop	4
141	Detention of Pay-Report	15
142	Detention of Pay-Reduce	1
150	Diving Duty	1
151	Diving Suty-Start	1
161	Family Separation Allowance-Start	42
162	Family Separation Allowance-Credit	117

TABLE C-2 (Continued)

<u>Event code</u>	<u>Event</u>	<u>Sample size</u>
181	Fine-Report	2
190	Flying Duty	2
191	Flying Duty-Start	123
192	Flying Duty-Credit	45
196	Flying Duty-Stop	20
200	Foreign Duty	1
201	Foreign Duty-To	7
202	Foreign Duty-From	1,291
210	Forfeiture	56
211	Forfeiture-Report	1,083
212	Forfeiture-Reduce	40
220	Grade	223
221	Grade-Restore	221
230	Hospital Rations	1
231	Hospital Rations-Start	3
233	Hospital Rations-Check	2
245	Hostile Fire Pay-Stop	1
250	Leave	3
251	Leave-To	644
252	Leave-From	7,574
253	Delay	5,120
254	Proceed	835
255	Excess Leave	264
256	Unauthorized absence charged as leave	117
260	Leave Settlement	39
261	Leave Settlement-Credit	288
262	Saved Leave Balance	84
263	Regular Leave Balance	5
264	Leave carried forward on reenlistment	1
280	Miscellaneous/other	33
290	Pay Entry Base Date	64
291	Pay Entry Base Date-Report	763
300	Promotion	46
301	Promotion-Report	2,487
311	Proficiency Pay-Award	7
312	Proficiency Pay-Terminate	17
320	BAQ	7
321	BAQ-Start	2,226
322	BAQ-Credit	9
323	BAQ-Check	1
325	BAQ-Resume	7
326	BAQ-Stop	35

TABLE C-2 (Continued)

<u>Event code</u>	<u>Event</u>	<u>Sample size</u>
327	Partial BAQ	291
328	BAQ-OR	637
329	Quarters/Inadequate Quarters	1,145
330	Reduction	74
331	Reduction Report	434
340	Reenlistment Bonus	2
341	Reenlistment Bonus-Report payment/award	27
342	Reenlistment Bonus-Credit	103
343	Reenlistment Bonus-Recoup	1
350	Sea Duty	1
351	Sea Duty-Start	52
352	Sea Duty-Credit	25
354	Sea Duty-Stop	269
360	SGLI/NSLI	1
361	SGLI/NSLI-Report Effective Date	1
371	Sick-Misconduct-Start	4
374	Sick-Misconduct-Stop	5
380	Special Pay	1
381	Special Pay-Report Entitlement	7
391	Stress Duty-Start	1
401	Sub Duty-Start	1
411	BAS-Start	15
412	BAS-Credit	8
414	BAS-Stop	5
430	Tax-Exempt	259
431	Tax-Exempt-Start	135
432	Tax-Exempt-Stop	2
435	State Tax Exclusion	141
441	Tax Inclusion-Start	6
450	Tax-Additional	1
452	Tax-Additional-Stop	17
471	TAD-To	88
472	TAD-From	110
480	Time Lost	1,057
481	Time Lost-Report	1,836
482	Time Lost-Credit	22
491	Travel Advance Credit	5
500	Unauthorized Absence	17
501	Unauthorized Absence-To	1,238
502	Unauthorized Absence-From	997
503	From Desertion	301
510	First Extension of Enlistment	238
511	Leave Carried Forward on First Extension	64
520	Due at Desertion	300
550	Government Property Checkage	81
555	Health and Comfort Checkage	2
560	Combat Arms Enlistment Bonus	140

TABLE C-3

CORRESPONDENCE BETWEEN DATA COLLECTION
FORMS AND TRANSITION PROBABILITIES

MMS		JUMPS	
Data form ^a	Transition from ^b	Data form ^a	Transition from ^b
2	M-1	11	J-1
3	M-18	11	J-10
3	M-50	11	J-50
3	M-54	12	J-12
4	M-17	13	J-52
4	M-30	13	J-54
4	M-34	14	J-14
5	M-40	14	J-16
6	M-6	15	J-18
7	M-16	15	J-21
7	M-20	16	J-56
8	M-19	16	J-59
10	M-4	17	J-24
10	M-23	18	J-62
None	M-9	None	J-30
None	M-10	None	J-34
		None	J-36
		None	J-67
		None	J-68
		None	J-72
		None	J-74
		None	J-88

^aWhen "None" is specified, data was collected at Kansas City, and no form was required.

^bTo next (succeeding) processing point.

TABLE C-4

CORRESPONDENCE BETWEEN DATA COLLECTION
FORMS AND TRANSITION TIMES

MMS		JUMPS	
Data form ^a	Transition from ^b	Data form ^a	Transition from ^b
2	M-1	11	J-10 J-50
3	M-18		
3	M-50	12	J-12
4	M-17	13	J-52
4	M-30	13	J-54
5	M-40	14	J-14
6	M-2	14	J-16
6	M-3	15	J-18
6	M-6	15	J-21
		15	J-23
6	M-33		
6	M-53	16	J-56
		16	J-59
7	M-12		
7	M-16	17	J-24
7	M-20	17	J-26
7	M-24	18	J-62
7	M-35	18	J-64
7	M-55		J-27
9	M-19		J-29
9	M-91		J-30
			J-32
10	M-4		J-65
None	M-7		J-67
None	M-8		J-68
			J-70

^aWhen "None" is specified, data was collected at Kansas City, and no form was required.

^bTo next (succeeding) processing point.

ANNEX C-1

**DATA COLLECTION FORMS
AND INSTRUCTIONS**

GENERAL INSTRUCTIONS

1. Data for Forms 2 - 18 will be collected and recorded on computer coding sheets in accordance with the specific instructions for each of the individual forms. Form 1 data should be entered directly onto the survey sheet provided (this information will not be keypunched or entered into the computer).
2. Every column of every data field will receive an entry, if only "0". There should be no blank columns, except as field separators.
3. All numbers should be right-justified within fields. For example, the figure "7" within a three column field would appear as "007".
4. In one of the available spaces at the top of each coding sheet, record the name of the person(s) entering the data onto that sheet, and the date of data collection.
5. The amount of data collected (sample size) at reporting units is determined by the size of that unit relative to the major command (see list provided) to which it is subordinate. For example, most RU forms specify 500 line entries per command. If the RU at which data is being collected contains 15% of the personnel in the command, then it should supply 15% of the 500 (i.e., 75) line entries required for that command.
6. All coding sheets should be numbered "___ of ___" to facilitate accounting for and processing the data. Each form will have its own number sequence for each data collection site.
7. Lines on the coding sheets will be numbered consecutively (data field 1 - 3) from "001" for each form and site. For example, if the data collection for a given form at a given site involves 60 lines of data and three coding sheets, then the final entry would be "060" on page "3 of 3".
8. All dates, unless otherwise specified (Form 9), will be in the five-digit Julian date format. The first two digits specify the year, the last three the day of the year. For example, November 10, 1977 would be entered as "77314". (November 10th is the 314th day of 1977.) A Julian date calendar is provided.
9. Where a name is required, use the last name only. If the last name is longer than 15 characters, use only the first 15.
10. Where "DSSN" is required, use the symbol number of the disbursing office which services the unit at which data is being collected.
11. Where "SDPI" is required, use the number of the SDPI which services the unit or disbursing office at which data is being collected.
12. Where an identification of the "event" is required, use the appropriate Pay-Related Event Code (PREC) from the list provided.

FORM 1

OBJECTIVE: To identify pay-related events which require reporting via unit diary or other documents (ABA, DD-114, etc.).

LOCATION OF DATA: Reporting unit.

DOCUMENTS REQUIRED: SRB's, Bn/Sqdrn Special Orders, UPB's.

SAMPLE SIZE: 25 individuals per reporting unit.

INSTRUCTIONS:

1. At each reporting unit for which data will be collected, assemble at least 25 randomly selected individuals. When the personnel are assembled, explain that the information they will be asked to provide will form a basis for an analysis of the effectiveness of the JUMPS/MMS system. Emphasize that they are not being investigated in any way. Distribute the forms and explain step by step how it is to be completed. Where dates are requested, approximations are preferred to omissions. Check each form for completeness and legibility prior to dismissing the individual.
2. These forms will be used to help identify pay-related events which should have been reported through JUMPS/MMS. The events identified on the forms must be verified by available reporting unit records.

SURVEY OF PAY-RELATED EVENTS
(FORM 1)

The following information will be used to analyze the effectiveness and timeliness of JUMPS/MMS reporting procedures. This data will become part of a larger study of overall system (JUMPS/MMS) performance, which will be used to identify possible improvements. Complete and return the forms as suggested by the Data Collection Team.

NAME _____ UNIT _____
RANK _____ RUC _____
SSN _____ DATE _____

1. Date you joined this unit: _____

2. Has your pay changed -- or should it have changed -- during the past six months?

YES _____ NO _____

3. During the past six months, have you changed status or amount in any of the following categories:

<u>CATEGORY</u>	<u>YES</u>	<u>NO</u>	<u>DATE</u>	<u>REMARKS</u>
Allotments	_____	_____	_____	_____
Bonds	_____	_____	_____	_____
Clothing allowance	_____	_____	_____	_____
ComRats/BAS	_____	_____	_____	_____
Family Separation Allowance (FSA)	_____	_____	_____	_____
ProPay	_____	_____	_____	_____
Quarters Allowance	_____	_____	_____	_____
SGLI/NSLI	_____	_____	_____	_____
Special Pay	_____	_____	_____	_____
Tax status	_____	_____	_____	_____

4. During the past six months, have you:

	<u>YES</u>	<u>NO</u>	<u>DATE</u>	<u>REMARKS</u>
Been confined?	_____	_____	_____	_____
Received a fine, forfeiture, or detention of pay?	_____	_____	_____	_____
Taken leave?	_____	_____	_____	_____
Been promoted?	_____	_____	_____	_____
Been reduced?	_____	_____	_____	_____
Reenlisted?	_____	_____	_____	_____
Gone TAD?	_____	_____	_____	_____
Been UA?	_____	_____	_____	_____

FORM 2

OBJECTIVE: To identify the delays and losses associated with reporting pay-related events on the unit diary.

LOCATION OF DATA: Reporting unit.

DOCUMENTS REQUIRED: Form 1, Unit diaries, SRB's, Bn/Sqdrn Special Orders, and UPB's.

SAMPLE SIZE: 500 line entries per command.

INSTRUCTIONS:

1. At the reporting unit office, using Form 1 or any other available source of information, obtain a random sample of pay-related events which should have been reported on the UD. The events in the sample should have occurred at least 60 days prior to the date of data collection. For each reportable event thus identified, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
5 - 6	4	Form number (Enter "02")
8 - 12	7	RUC
14 - 15	13	SDPI
17 - 20	16	DSSN
22 - 24	21	Event (PREC)
26 - 40	25	Name
42 - 50	41	SSN
52 - 56	51	Date of event. (If the UD has been used to identify the event, use the "Effective date" or the UD date, whichever is earlier.)
	57	

2. Search unit diaries prepared subsequent to the event to determine if and when it was reported. Record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
58 - 62		UD date. If no UD entry can be found for the event, enter "00000".
	63 - 80	

FORM 3

OBJECTIVE: To identify the delays and losses associated with correction and/or resubmission of entires which appear in paragraph 5 of the RU/UTR.

LOCATION OF DATA: Reporting unit.

DOCUMENTS REQUIRED: UTR's and UD's.

SAMPLE SIZE: 500 line entries per command.

INSTRUCTIONS:

1. At the reporting unit office, search UTR's dated at least 60 days prior to the date of data collection to obtain a sample of pay-related statements in the reporting unit section of paragraph 5. (Omit statements in suspense and awaiting ACU or KC action.) For each statement record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
	4	
5 - 6		Form number (Enter "03")
	7	
8 - 12		RUC
	13	
14 - 15		SDPI
	16	
17 - 20		DSSN
	21	
22 - 26		Date of UTR
	27	
28 - 30		Event (PREC)
	31	
32 - 46		Name
	47	
48 - 56		SSN
	57	

CENTER FOR NAVAL ANALYSES ALEXANDRIA VA MARINE CORP--ETC F/6 5/1
THE EFFECTIVENESS OF INFORMATION PROCESSING IN JUMPS/MMS. VOLUM--ETC(U)
OCT 79 C A MILLARD, P M BUCKLEY N00014-76-C-0746
CRC-404-VOL-1 NL

OCT 79 C A MILLARD, P M BUCKLEY
CRC-404-VOL-1

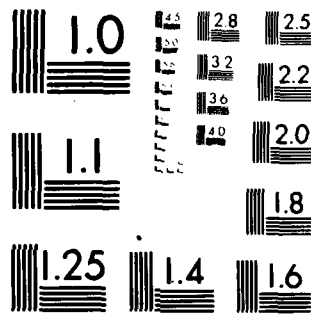
N00014-76-C-0746

NL

2. 2
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ΔΕ,
ΕΚΔΟΤΕΣ

END
DATE
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9 80
DTIC



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

FORM 3 (continued)

2. Search unit diaries prepared subsequent to receipt of the UTR for resubmission of the entry. For each UTR statement identified above, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
58 - 62		Date of UD in which the statement was resubmitted. If resubmission was not required, enter "11111". If resubmission was required, but none is found, enter "00000". In either case ("00000" or "11111"), enter zeros in all remaining fields.

63

3. Search subsequent UTR's for the reappearance of each resubmitted entry identified above (instruction 2). For each UD resubmission, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
64 - 68		Date of UTR. If no UTR statement is found, enter zeros in this and all remaining fields.
70	69	UTR paragraph number
72	71	
		Paragraph 5 action code. If the statement reappears in UTR paragraph 5, enter the appropriate paragraph 5 action code from the list provided. Otherwise (i.e., if it reappears in other than paragraph 5), enter "0".
74 - 75	73	UTR statement origin code. Enter the origin code from the list provided, or from the PRIM.
	76 - 80	

FORM 4

OBJECTIVE: To identify the losses and delays associated with correction and resubmission of entries which appear in paragraph 2 of the RU/UTR.

LOCATION OF DATA: Reporting units.

DOCUMENTS REQUIRED: UTR's and UD's.

SAMPLE SIZE: 500 line entries per command.

INSTRUCTIONS:

1. At the reporting unit office, search UTR's dated at least 60 days prior to the date of data collection to obtain a sample of "first notification" pay-related statements in paragraph 2 of the UTR. For each statement record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
	4	
5 - 6		Form number (Enter "04")
	7	
8 - 12		RUC
	13	
14 - 15		SDPI
	16	
17 - 20		DSSN
	21	
22 - 26		Date of UTR
	27	
28 - 30		Event (PREC)
	31	
32 - 46		Name
	47	
48 - 56		SSN
	57	

FORM 4 (continued)

2. Search unit diaries prepared subsequent to receipt of the UTR for resubmission of the entry. For each UTR statement identified above, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
58 - 62		Date of UD in which the statement was resubmitted. If resubmission was not required, enter "11111". If resubmission was required, but none is found, enter "00000". In either case (i.e., "00000" or "11111"), enter zeros in all remaining fields.

63

3. Search subsequent UTR's for the reappearance of each resubmitted entry identified above (instruction 2). For each UD resubmission, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
64 - 68		Date of UTR. If no UTR statement is found, enter zeros in this and all remaining fields.
70	69	UTR paragraph number
72	71	
		Paragraph 5 action code. If the statement reappears in UTR paragraph 5, enter the appropriate paragraph 5 action code from the list provided. Otherwise (i.e., if it reappears in other than paragraph 5), enter "0".
74 - 75	73	UTR statement origin code. Enter the origin code from the list provided, or from the PRIM.
	76 - 80	

FORM 5

OBJECTIVE: To identify the losses and delays associated with entries which are placed in a suspense status.

LOCATION OF DATA: Reporting unit office.

DOCUMENTS REQUIRED: UTR's.

SAMPLE SIZE: 500 line entries per command.

INSTRUCTIONS:

1. At the reporting unit office, obtain a sample of statements in the "suspense status" portion of paragraph 5 of UTR's dated at least 60 days prior to the date of data collection. For each statement, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
	4	
5 - 6		Form number (Enter "05")
	7	
8 - 12		RUC
	13	
14 - 15		SDPI
	16	
17 - 20		DSSN
	21	
22 - 26		Date of UTR
	27	
28 - 30		Event (PREC)
	31	
32 - 46		Name
	47	
48 - 56		SSN
	57	

FORM 5 (continued)

2. Search subsequent UTR's for reappearance of the statement. For each suspense statement identified above (i.e., instruction 1), record the following information:

DATA CLOUMNS	BLANK COLUMNS	DATA ELEMENTS
58 - 62		Date of the UTR in which the suspense statement reappears
	63	
64		UTR paragraph number
	65	
66		Paragraph 5 action code. If the statement reappears in UTR paragraph 5, enter the appropriate paragraph 5 action code from the list provided. Otherwise (i.e., if it reappears in other than paragraph 5), enter "0".
	67	
68 - 69		UTR statement origin code. Enter the origin code from the list provided, or from the PRIM.
	70 - 80	

FORM 6

OBJECTIVE: To identify the delays and losses associated with the OCR scanning and computer editing of unit diaries.

LOCATION OF DATA: SDPI/ACU.

DOCUMENTS REQUIRED: UD's and RU/UTR's.

SAMPLE SIZE: 500 line entries per SDPI.

INSTRUCTIONS:

1. From scanner runs occurring at least 60 days prior to the date of data collection, select a sample of UD pages completely read by the scanner. For each pay-related statement on these diaries, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
	4	
5 - 6		Form number (Enter "06")
	7	
8 - 9		SDPI number
	10	
11 - 13		Scan number
	14	
15 - 19		Scan date
	20	
21 - 35		Name
	36	
37 - 45		SSN
	46	
47 - 49		Event (PREC)
	50	
51 - 55		RUC
	56	
57 - 61		Date of UD on which statement appears
	62	
63 - 67		Date UD was received at the ACU (date stamped)
	68	

FORM 6 (continued)

2. Search subsequent UTR's to determine when and where each statement first reappears. Record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
69 - 73		Date of UTR. If the statement cannot be found on a UTR, enter zeros in this and all remaining fields.
	74	
75		UTR paragraph number
	76	
77		UTR paragraph 5 action code. If the statement appears in UTR paragraph 5, enter the appropriate paragraph 5 action code from the list provided. Otherwise (i.e., if it appears in other than paragraph 5), enter "0".
	78 - 80	

FORM 7

OBJECTIVE: To identify the losses and delays associated with the resubmission of statements returned to the ACU for action.

LOCATION OF DATA: SDPI/ACU.

DOCUMENTS REQUIRED: ACU/UTR's, RU/UTR's, and DTF files.

SAMPLE SIZE: 500 line entries per SDPI.

INSTRUCTIONS:

1. From ACU/UTR's dated at least 60 days prior to the date of data collection, select a sample of pay-related statements in paragraph 2 or 5. For each statement, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
5 - 6	4	Form number (Enter "07")
8 - 9	7	SDPI
11 - 15	10	Date of ACU/UTR
17 - 31	16	Name
32 - 40		SSN
42 - 44	41	Event (PREC)
46 - 50	45	RUC
52 - 56	51	Date of UD from which the statement came
	57	

FORM 7 (continued)

2. Search subsequent DTF's to determine when the statement was retyped and resubmitted to the OCR scanner. For each statement identified above (instruction 1), record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
58 - 62		Date of DTF retype. If no retype was required, enter "11111". If retype was required, but none is found, enter "00000". In either case (i.e., "00000" or "11111"), enter zeros in all remaining fields.
	63	
64 - 66	67	Number of scanner run to which DTF was submitted
68 - 72	73	Date of scanner run to which DTF was submitted

3. Search subsequent RU/UTR's to determine where and when the retyped and rescanned statement reappeared. For each such statement, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
74 - 78		Date of RU/UTR in which statement reappears. If no UTR reappearance is found, enter zeros in this and all remaining fields.
79		RU/UTR paragraph number
80		Paragraph 5 action code. If the statement reappears in RU/UTR paragraph 5, enter the appropriate paragraph 5 action code from the list provided. Otherwise (i.e., if it reappears in other than paragraph 5), enter "0".

FORM 8

OBJECTIVE: To identify the delays and losses associated with statements returned from the CDPA(KC) to the local SDPI/ACU for action.

LOCATION OF DATA: SDPI/ACU or RU.

DOCUMENTS REQUIRED: RU/UTR's.

SAMPLE SIZE: 500 line entries per command.

INSTRUCTIONS:

1. From RU/UTR's dated at least 60 days prior to the date of data collection, obtain a sample of pay-related statements with an origin code of "KD" or "KE". For each statement, record the following information:

DATA CLOUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
5 - 6	4	Form number (Enter "08")
8 - 12	7	RUC
14 - 15	13	SDPI
17 - 20	16	DSSN
22 - 26	21	Date of UTR
28 - 30	27	Event (PREC)
32 - 46	31	Name
48 - 56	47	SSN
58	57	UTR paragraph number
60	59	Paragraph 5 action code. If the statement appears in UTR paragraph 5, enter the appropriate paragraph 5 action code from the list provided. Otherwise (i.e., if it appears in other than paragraph 5), enter "0".
62 - 63	61	UTR statement origin code. Enter the origin code from the list provided, or from the PRIM.
	64 - 80	

FORM 9

OBJECTIVE: To identify the delays associated with reprocessing statements returned (by JANAP message) to the SDPI/ACU from the CDPA (KC).

LOCATION OF DATA: ACU, Comm center, and SDPI.

DOCUMENTS REQUIRED: AUTODIN listings (incoming), JANAP message logs, and MMS cycle logs.

SAMPLE SIZE: 100 line entries per SDPI.

INSTRUCTIONS:

1. At the ACU, from incoming AUTODIN listings dated at least 30 days prior to the date of data collection, select a sample of JANAP messages with different Date-Time-Groups (DTGs) and "DATA" in the TYPE DATA column. For each JANAP, record the information indicated below. (NOTE: Each "Date/Time" for this form will be in a nine digit format of Julian date followed by the hour. For example, "771051315" indicates a time of 1315 on the 105th day of 1977. If no time is available, use 1200.)

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
	4	
5 - 6		Form number (Enter "09")
	7	
8 - 9		SDPI
	10	
11 - 15		Date of AUTODIN listing
	16	
17 - 20		JANAP message number
	21	
22 - 30		Date/Time of JANAP message
	31	

FORM 9 (continued)

2. From records at the communications center which services the SDPI, determine the number of the (computer) tape reel onto which the incoming AUTODIN data was recorded. From comm center logs or SDPI records, determine when responsibility for the tape passed from comm center to SDPI personnel. Record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
32 - 37		Tape reel number
39 - 47	38	
	48	Date/Time of receipt of tape by SDPI

3. At the SDPI, identify the MMS cycle in which the data on the tape reel was processed. Record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
49 - 51		MMS cycle number
	52	
53 - 61	62	Date/Time of start of MMS cycle
63 - 71		Date/Time of end of MMS cycle
	72 - 80	

FORM 10

OBJECTIVE: To identify the delays and losses associated with OCR scanner operations.

LOCATION OF DATA: SDPI/ACU.

DOCUMENTS REQUIRED: Scanner teletype messages.

SAMPLE SIZE: 500 UD entries and 500 DTF entries per SDPI.

INSTRUCTIONS:

1. For OCR scanner runs occurring at least 60 days prior to the date of data collection, obtain the scanner teletype message and record the information indicated below. Select enough scanner runs to ensure that the total number of UD and DTF entries processed is at least 500 (each).

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
5 - 6	4	Form number (Enter "10")
8 - 9	7	SDPI
11 - 13	10	Number of scanner run
15 - 19	14	Date UD or DTF submitted to scanner
21 - 25	20	Date UD or DTF returned from scanner
27 - 30	26	Number of UD entries read/accepted
32 - 35	31	Number of UD entries rejected
37 - 40	36	Number of DTF entries read/accepted
42 - 45	41	Number of DTF entries rejected
	46 - 80	

FORM 11

OBJECTIVE: To determine the reporting rates and time delays for reporting pay-related events on substantiating (source) documents.

LOCATION OF DATA: Reporting Unit office

DOCUMENTS REQUIRED: Form 1 for the RU. Unit files (ABA's, DD-114's, etc.).

SAMPLE SIZE: 500 line entries per command.

INSTRUCTIONS:

1. Use Form 1 to obtain a random sample of pay-related events which require both RU and DO action. The events in the sample should have occurred more than 60 days prior to the data collection visit. If the required number of events cannot be identified from Form 1, search SRB's, UD's and other available files for pay-related events. For each event, enter the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
	4	
5 - 6		Form number (Enter "11")
	7	
8 - 12		RUC
	13	
14 - 15		SDPI
	16	
17 - 20		DSSN
	21	
22 - 24		Event (PREC)
	25	
26 - 30		Date of event. If the UD has been used to identify the event, use the "Effective date" or the UD date, whichever is earlier.
	31	
32 - 46		Name
	47	
48 - 56		SSN
	57	

FORM 11 (continued)

2. Search RU files to determine the type and date of the document (ABA, DD-114, etc.) which transmitted the information relating to the event from the RU to the DO. For each event, enter the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
58 - 59		Document type. Enter "AA" for ABA and "TT" for all others. If no substantiating document can be found, enter "AO" if an ABA should have been used; otherwise enter "TO".
61 - 65	60	Date of document.
	66 - 80	

FORM 12

OBJECTIVE: To identify the delays and losses associated with transmitting TODE source documents from the RU to its DO.

LOCATION OF DATA: RU and DO.

DOCUMENTS REQUIRED: TODE source documents (FSA and BAQ forms, DD-114's, etc.), PFR's and LES's.

SAMPLE SIZE: 500 line entries per command.

INSTRUCTIONS:

1. Before proceeding with the collection of data for this form, determine whether it is possible to identify the date that any particular TODE source document is received at the DO. This information should be available from logs or date stamps on the actual documents. If no incoming document log is maintained, check to see if the DO-retain or PFR copies of the documents contain a receipt stamp. If the date of receipt at the DO for incoming TODE source documents can be identified, proceed with steps 2 and 3. If not, skip to ALTERNATE PROCEDURE 2A.
2. From RU files, select a random sample of TODE source documents dated at least 60 days prior to the date of data collection. For each documented event, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
5 - 6	4	Form number (Enter "12")
8 - 12	7	RUC
14 - 15	13	SDPI
17 - 20	16	DSSN
22 - 24	21	Event (PREC)
26 - 40	25	Name
42 - 50	41	SSN
52 - 56	51	Date of document
	57	

FORM 12 (continued)

3. At the D0, locate the source documents for the individuals and events identified above. Record the dates the documents were received at the D0, as follows:

DATA COLUMNS	BLANK COLUMNS
-----------------	------------------

DATA ELEMENTS

58 - 62

Date document received at D0. If no document can be found, search the individual's PFR for a LES entry covering the event. If a LES entry is found, enter "11111" in this field; if not enter "00000".

63 - 80

ALTERNATE PROCEDURE

(To be used only if there is no way to determine when a specific TODE source document is received at the D0.)

2A. At the D0, select a sample of incoming TODE source documents which have been received recently enough (e.g., that same day, or the preceeding day) to enable positive identification of the day of receipt. For each such document, record the information specified above for columns 1-80. If this alternate procedure is used, the sample size should be 500 line entries per D0, which may require repeat visits to the D0 or data collection on successive days.

FORM 13

OBJECTIVE: To determine loss rates and delays for ABA's from preparation at the RU to creation of the DTL at the DO.

LOCATION OF DATA: Disbursing Office.

DOCUMENTS REQUIRED: PFR's and DTL files.

SAMPLE SIZE: 500 line entries per DO.

INSTRUCTIONS:

1. From Forms 1 and 11, or from other available files, obtain a random sample of ABA events occurring at least 60 days prior to the date of data collection. For each such event, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
	4	
5 - 6		Form number (Enter "13")
	7	
8 - 9		SDPI
	10	
11 - 14		DSSN
	15	
16 - 20		RUC
	21	
22 - 24		Event (PREC)
	25	
26 - 40		Name
	41	
42 - 50		SSN
	51	

2. Obtain the PFR for each individual identified above and locate the ABA for the specific event. Record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
52 - 56		ABA date (use the date the ABA was signed by the CO/OIC). If the ABA cannot be found, enter "00000".
	57	
58 - 62		Date of receipt of ABA at DO. If the ABA was not date-stamped when received at the DO, use the "Date DO Entry" from block # 3 of the ABA.
	63	

FORM 13 (continued)

3. Search the DTL files for the DTL covering the specific ABA. Record its date, as follows:

DATA BLANK
COLUMNS COLUMNS

DATA ELEMENTS

64 - 68

DTL date. If no DTL is found, check the individual's PFR for a LES entry covering the event. If a LES entry is found enter "11111" in this field; otherwise, enter "00000".

69 - 80

FORM 14

OBJECTIVE: To identify the delays and losses associated with TODE and TODE DTL preparation and processing at the DO.

LOCATION OF DATA: Disbursing Office.

DOCUMENTS REQUIRED: PFR's, TODE source documents, TODES, and DTL's.

SAMPLE SIZE: 500 line entries per DO.

INSTRUCTIONS:

1. At the DO, obtain a random sample of TODE source documents (DD-114's, FSA forms, etc.) for which the date of receipt at the DO can be determined from logs or date stamps. For each documented event, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
	4	
5 - 6		Form number (Enter "14")
	7	
8 - 9		SDPI
	10	
11 - 14		DSSN
	15	
16 - 18		Event (PREC)
	19	
20 - 34		Name
	35	
36 - 44		SSN
	45	
46 - 50		Date document received at DO.
	51	

2. In the appropriate PFR's, locate the TODE's covering the events identified above. Record their dates (Note: TODES may be grouped by date to facilitate DTL search, if desired), as follows:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
52 - 56		TODE date. If no TODE is found, search the individual's PFR for a LES entry covering the event. If a LES entry is found, enter "1111" in this field; otherwise enter "00000".
	57	

FORM 14 CONTINUED

3. For each TODE located, search DTL files for the covering DTL. Record its date, as follows:

DATA COLUMNS	BLANK COLUMNS
-----------------	------------------

DATA ELEMENTS

58 - 62

DTL date. If no DTL is found, search the individual's PFR for a LES entry covering the event. If a LES entry is found, enter "11111" in this field; otherwise enter "00000".

63 - 80

FORM 15

OBJECTIVE: To identify the losses, reject rates, and delays associated with decentralized (local) scanning of TODE DTL's.

LOCATION OF DATA: Disbursing Office.

DOCUMENTS REQUIRED: DTL files, scanner control logs, scanner teletype printouts, and JUMPS Edit Error Listings (JEEL).

SAMPLE SIZE: 500 line entries per DO.

INSTRUCTIONS:

1. At the DO, obtain a random sample of TODE DTL's dated at least 30 days prior to the date of data collection. Determine which DTL's entered decentralized processing (i.e., local scanning), which entered central processing (i.e., forwarded directly to MCFC), and the date each DTL was mailed to MCFC (columns 50-54). For each DTL, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
5 - 6	4	Form number (Enter "15")
8 - 9	7	SDPI
11 - 14	10	DSSN
16 - 18	15	DTL number
20 - 24	19	DTL date
26 - 28	25	Number of documents covered by DTL
30 - 32	29	Number of documents to local scanning
34 - 36	33	Number of documents to central processing (MCFC)
	37	

(NOTE: Centralized and decentralized processing are exclusive and exhaustive events. The documents for any given DTL must stay together as a batch and will undergo one process or the other -- but not both. A nonzero entry in columns 30-32 requires "000" in columns 34-36, and vice versa.)

FORM 15 (continued)

2. From the JEEL and scanner logs, determine the dates the locally scanned DTL's identified above were submitted to and returned from the scanner. Record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
38 - 42		Date DTL to scanner (from logs). Enter "00000" if centrally scanned (i.e., if "000" in columns 30-32).
44 - 48	43	Date DTL from scanner (from JEEL). Enter "00000" if centrally scanned (i.e., if "000" in columns 30-32).
50 - 54	49	
	55	Date DTL mailed to MCFC

3. From scanner teletype printouts, determine the number of entries/records on the DTL's identified above which passed or failed local scanning. Record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
56 - 58		Number of entries/records which pass local scan. Enter "000" if centrally scanned.
60 - 62	59	
	63 - 80	Number of entries/records which fail local scan. Enter "000" if centrally scanned.

FORM 16

OBJECTIVE: To identify the losses, reject rates, and delays associated with decentralized (local) scanning of ABA DTL's.

LOCATION OF DATA: Disbursing Office.

DOCUMENTS REQUIRED: DTL files, scanner control logs, scanner teletype printouts, and JUMPS Edit Error Listings (JEEL).

SAMPLE SIZE: 500 line entries per D0.

INSTRUCTIONS:

1. At the D0, obtain a random sample of ABA DTL's dated at least 30 days prior to the date of data collection. Determine which DTL's entered decentralized processing (i.e., local scanning), which entered central processing (i.e., forwarded directly to MCFC), and the date each DTL was mailed to MCFC (columns 50-54). For each DTL, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
	4	
5 - 6		Form number (Enter "16")
	7	
8 - 9		SDPI
	10	
11 - 14		DSSN
	15	
16 - 18		DTL number
	19	
20 - 24		DTL date
	25	
26 - 28		Number of documents covered by DTL
	29	
30 - 32		Number of documents to local scanning
	33	
34 - 36		Number of documents to central processing (MCFC)
	37	

(NOTE: Centralized and decentralized processing are exclusive and exhaustive events. The documents for any given DTL must stay together as a batch and will undergo one process or the other -- but not both. A nonzero entry in columns 30-32 requires "000" in columns 34-36, and vice versa.)

FORM 16 (continued)

2. From the JEEL and scanner logs, determine the dates the locally scanned DTL's identified above were submitted to and returned from the scanner. Record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
38 - 42		Date DTL to scanner (from logs). Enter "00000" if centrally scanned (i.e., if "000" in columns 30-32).
	43	
44 - 48		Date DTL from scanner (from JEEL). Enter "00000" if centrally scanned (i.e., if "000" in columns 30-32).
	49	
50 - 54		Date DTL mailed to MCFC
	55	

3. From scanner teletype printouts, determine the number of documents/records on the DTL's identified above which passed or failed the local scanning. Record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
56 - 58		Number of documents/records which pass local scan. Enter "000" if centrally scanned.
	59	
60 - 62		Number of documents/records which fail local scan. Enter "000" if centrally scanned.
	63 - 80	

FORM 17

OBJECTIVE: To identify the delays and losses associated with retyping and resubmission of TODE DTL's which initially fail local scan.

LOCATION OF DATA: Disbursing Office.

DOCUMENTS REQUIRED: DTL files and JUMPS Edit Error Listing (JEEL).

SAMPLE SIZE: 500 line entries per D0.

INSTRUCTIONS:

1. At the D0, select (from the JEEL) a sample of entries which were submitted by the D0 for local scanning under a TODE DTL, but which were rejected by the scanner. For each such reject, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
	4	
5 - 6		Form number (Enter "17")
	7	
8 - 9		SDPI
	10	
11 - 14		DSSN
	15	
16 - 20		Reject listing date
	21	
22 - 26		Date of covering DTL
	27	
28 - 30		Event (PREC)
	31	

2. At the D0, search the DTL files to determine when the rejected entry was corrected and resubmitted on a new (or corrected) document, TODE, and DTL. For each event (rejected entry) identified above, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
32 - 36		Retype date. If not found, enter "000000".
	37	
38 - 42		New DTL date. If not retyped, enter "000000".
	43 - 80	

FORM 18

OBJECTIVE: To identify the delays and losses associated with retyping and resubmission of ABA DTL's which initially fail local scan.

LOCATION OF DATA: Disbursing Office.

DOCUMENTS REQUIRED: DTL files and JUMPS Edit Error Listing (JEEL).

SAMPLE SIZE: 500 line entries per DO.

INSTRUCTIONS:

1. At the DO, select (from the JEEL) a sample of entries which were submitted by the DO for local scanning under an ABA DTL, but which were rejected by the scanner. For each such reject, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
1 - 3		Line number
	4	
5 - 6		Form number (Enter "18")
	7	
8 - 9		SDPI
	10	
11 - 14		DSSN
	15	
16 - 20		Reject listing date
	21	
22 - 26		Date of covering DTL
	27	
28 - 30		Event (PREC)
	31	

2. At the DO, search the DTL files to determine when the rejected entry was corrected and resubmitted on a new (or corrected) ABA and DTL. For each event (rejected entry) identified above, record the following information:

DATA COLUMNS	BLANK COLUMNS	DATA ELEMENTS
32 - 36		Retype date. If not found, enter "000000".
	37	
38 - 42		New DTL date. If not retyped, enter "000000".
	43 - 80	

UTR PARAGRAPH 5 ACTION CODES

<u>CODE</u>	<u>DESCRIPTION</u>
A	Paragraph 5 statements which are awaiting ACU or CDPA(KC) action
S	Paragraph 5 statements placed in a suspense status
M	All other paragraph 5 statements

UTR ORIGIN CODES

<u>CODE</u>	<u>DESCRIPTION</u>
HQ	Originated by Headquarters, Marine Corps
MG	Machine generated
RT	Retyped by the ACU
UD	Unit diary
CI	Character insertion by ACU
AC	Accession Transcription Form (ATF)
KD	Statement accepted/processed by CDPA, KC
KE	Rejected as erroneous by CDPA, KC
RC	Recycled statement, accepted upon recycle (previously rejected due to system malfunction)
FC	Forwarded change: statement passed RUC edit at CDPA, KC but does not match RUC in field record
UR	Statements originating during TAD or attachment

Source: PRIM, paragraph 9002.2f

JULIAN DATE CALENDAR

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	1	32	60	91	121	152	182	213	244	274	305	335	1
2	2	33	61	92	122	153	183	214	245	275	306	336	2
3	3	34	62	93	123	154	184	215	246	276	307	337	3
4	4	35	63	94	124	155	185	216	247	277	308	338	4
5	5	36	64	95	125	156	186	217	248	278	309	339	5
6	6	37	65	96	126	157	187	218	249	279	310	340	6
7	7	38	66	97	127	158	188	219	250	280	311	341	7
8	8	39	67	98	128	159	189	220	251	281	312	342	8
9	9	40	68	99	129	160	190	221	252	282	313	343	9
10	10	41	69	100	130	161	191	222	253	283	314	344	10
11	11	42	70	101	131	162	192	223	254	284	315	345	11
12	12	43	71	102	132	163	193	224	255	285	316	346	12
13	13	44	72	103	133	164	194	225	256	286	317	347	13
14	14	45	73	104	134	165	195	226	257	287	318	348	14
15	15	46	74	105	135	166	196	227	258	288	319	349	15
16	16	47	75	106	136	167	197	228	259	289	320	350	16
17	17	48	76	107	137	168	198	229	260	290	321	351	17
18	18	49	77	108	138	169	199	230	261	291	322	352	18
19	19	50	78	109	139	170	200	231	262	292	323	353	19
20	20	51	79	110	140	171	201	232	263	293	324	354	20
21	21	52	80	111	141	172	202	233	264	294	325	355	21
22	22	53	81	112	142	173	203	234	265	295	326	356	22
23	23	54	82	113	143	174	204	235	266	296	327	357	23
24	24	55	83	114	144	175	205	236	267	297	328	358	24
25	25	56	84	115	145	176	206	237	268	298	329	359	25
26	26	57	85	116	146	177	207	238	269	299	330	360	26
27	27	58	86	117	147	178	208	239	270	300	331	361	27
28	28	59	87	118	148	179	209	240	271	301	332	362	28
29	29		88	119	149	180	210	241	272	302	333	363	29
30	30		89	120	150	181	211	242	273	303	334	364	30
31	31		90		151		212	243		304		365	31
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	

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